

JUNE 1957

# CCJ

## COMMERCIAL CAR JOURNAL

A CHILTON PUBLICATION

THE MAGAZINE FOR TRUCK AND BUS FLEET OPERATORS



*in this issue*

Rigid PM Keeps Logging Fleet Mobile

Maintenance Scheduling Ups Work Flow

Better Try Again, Mr. Buck!

In actual road tests . . .



Dodge won top honors in test after test between comparable models of all three low-priced trucks. Special high-speed camera records actual finish of hill-climb test. From a standing start, test crews raced all three trucks up a 32% grade. Dodge was first by five lengths.

and on your job . . .



Dodge gives you more V-8 power, in every weight class, than either of the other two low-priced trucks. From 204-hp. pick-ups to 232-hp. tandems, the extra power you get in a Dodge means an on-the-job performance bonus for you. It means greater economy, too, because it cuts down engine strain, reduces wear and repairs.

## Dodge *Power Giants* outpower, outperform the "other two" low-priced trucks by wide margin!

**Want power?** Dodge outpowers its low-priced competitors by as much as 27 percent.

**Want economical performance?** The advanced design of the Dodge short-stroke V-8 produces the most efficient fuel usage in the industry. You get more miles per gallon . . . full power on *regular* gas.

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**How about it?** Don't you think you should find out for yourself? Just give your Dodge dealer a ring. He'll bring a truck right to your door and he'll show you certified test results that demonstrate Dodge is a winner in actual tests and on your job.

# DODGE

## *PowerGiants*

MOST POWER OF THE LOW-PRICED 3



**"Better Penetration...  
Greater Coverage..."**

**—Say users of RCA 100-watt Carfone**



**New RCA Carfone "Fifty"  
100-Watt 2-Way Radio**

**IN THE CITY—better penetration  
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# COMMERCIAL CAR

—JUNE 1957 • Vol. 93 • No. 4—

## This Month's Features . . .

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- Logging Fleets Cooperate for Safety . . . . . 70**  
OTTO—Oregon Timber Transport Operators—wins public goodwill by improving the industry's safety record
- Maintenance Scheduling Ups Work Flow . . . 72**  
New York City Transit Authority's Hy Feldman tells how he gets the most by planning ahead, following the plan
- Detroit Edison Cuts Battery Failure 40% . . . 74**  
Motor Transportation Superintendent G. A. Spencer shows that road calls can be cut when you know the facts
- Daily Briefing Tabs Equipment . . . . . 78**  
Within an hour after 8 a.m. each day, Denver-Chicago's brass knows yesterday's facts, what needs doing today
- LP Gas Cuts Lift Truck Costs . . . . . 80**  
Pound-up of facts you need to know to decide if it can help you. Safety's no problem, savings are impressive
- Guide to Expediting Road Failures . . . . . 82**  
Here's a list of possible causes arranged by driver complaint to help you make the best decision on what to do
- Better Try Again, Mr. Buck! . . . . . 88**  
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- "Tubes" Up Bakery Body Capacity 1/3 . . . . . 92**  
Rectangular tubes of corrugated cardboard plus plywood racks also cut dead weight and reduce loading costs
- Seek Early Renewal of Short-Term Rights . . . 94**  
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- Reo Offers New Diesel Series . . . . . 100**  
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- Modern Terminal Is Designed for LTL . . . . . 102**  
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- Fawick Offers Girling Brake . . . . . 104**
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### ON THE COVER . . .

With modern equipment, these wheel-thick logs can be handled like toothpicks . . . may even end-up that way . . . or as plywood shelves in a bakery truck body (page 92). As in other fleets, logging operations depend on the mobility that comes from planned maintenance (page 66) . . . and the safety that comes from cooperation (page 70).

# JOURNAL

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C. W. Hevner.....Assistant to the Publisher  
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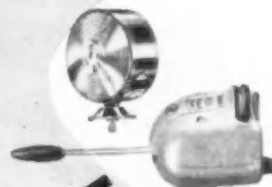
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"The quality of the product  
will be remembered long after  
the price has been forgotten..."



## #887 STOP, TAIL & TWIN SIGNAL SET COMBINATION

2 Thin-A signal lamps with one amber  
and one red lens for front fender  
mounting... 2 single faced turn,  
stop and tail lamps with red lenses for  
rear mounting... Wheel-O-Matic  
switch with flasher and fuse in line  
... mounting brackets, wire and  
instructions.

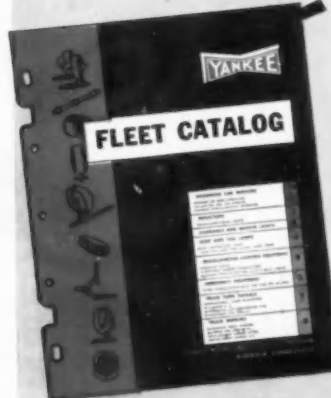


## #280R RUBBER RIMMED MIRROR HEAD

6" x 9" molded, rubber rimmed re-  
placement head with clear, replaceable  
glass... fits most popular truck  
mirror arms... 3 screw tension  
adjustment... finished in rock hard,  
black baked enamel.

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I.C.C. requires that trucks engaged in  
interstate commerce must carry  
spare bulbs and fuses... kit holds  
16 bayonet base bulbs, 8 fuses and  
1 sealed beam bulb in a sponge  
rubber pad... Bonded...  
finished in glossy, black baked  
enamel... furnished less bulbs.



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for every  
fleet  
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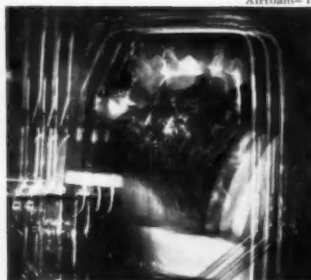
"So what if I furnished it homey-like? Since the boss specified full-depth Airfoam seats, I spend my off-time here!"

How full-depth AIRFOAM seats ►  
increase driver-efficiency, cut costs:

You can specify Full-Depth  
AIRFOAM seats and backs as  
original equipment on any truck!  
But be sure it's

**Airfoam**  
MADE ONLY BY  
**GOODYEAR**

The World's Finest, Most Modern Cushioning



**MULTIPLE-EXPOSURE PHOTO** shows how the usual spring-and-padding type cushions amplify drags and jars. Also, time-lag in spring-action causes driver to bounce up as controls come down. Trying to compensate, driver cramps muscles, frazzles nerves, drains efficiency. Cushions wear out, too!



**SAME CAB WITH FULL-DEPTH AIRFOAM SEAT AND BACK.** Over half-a-million fresh air cushions per cubic inch absorb drags and jars, keep driver's motion in step with controls. Result: Fresher, cooler, more efficient drivers. Cushions, being all one piece, don't sag, snag, break down or ruin covers.

Goodyear, Automotive Products Dept., Akron 16, Ohio



# THE OVERLOAD

E D I T O R I A L C O M M E N T

## A Sentimental Journey

MOTHER DIED last month at the age of 84. The Reaper struck instantly and without warning in the midst of a little shopping spree. It was just the way she would have wanted it.

Obviously this is an unusual subject for an editorial page. But there are two reasons for mentioning it.

First, mother was one of the few in an older generation that really understood trucks. She knew that in latter years her stay on earth literally depended on trucks to bring her the things she needed and wanted. It was a two-way street. She had been told the truck story and she took the trouble to find out for herself.

And in the end a truck took her to the hospital. Another brought her home. Still others brought her flowers and letters. And finally a commercial vehicle took her on the long, last, sentimental journey.

During those 200 miles our little procession met only a few delays. Most were caused by "Sunday drivers" intent on their prerogative of blocking the highway at maybe 30 mph. But there were also quite a few heavy trucks grinding along the hilly route. In every case all it took was a friendly "toot" and the headlights showing in their rear view mirror. Without

exception each pulled aside to let us pass. Mother would have saluted, too.

The second reason is perhaps still more personal. A lot of people will argue that business and personal affairs should not be mixed. We argue that they should.

Our job is to edit a magazine of help and service to the industry. Your job is to run the trucks and buses that make it what it is. We like to think we can all do our jobs better, the closer they become a part of our personal lives.

Those drivers didn't have to pull aside. They had schedules to meet. But they did, because it was personally the right thing to do. Similarly a mechanic doesn't have to measure to the last 10 thousandths of an inch. But he does because that is the right thing to do. Managers are not required to take a personal interest in problems of their employees. But the good ones do . . . for the same reasons.

Admittedly these are sentimental thoughts, far removed from the problems we so often discuss on the editor's page. But it is just possible that a little lady's passing can thus help to make the industry a mite more conscious of its responsibilities . . . and the men who run it a little bit closer to their jobs.

Bart Rawson  
Editor



## Take these 4 short steps

You can take the sting out of high maintenance bills in 4 short steps, if you—

**1.** Stop excessive engine wear with *Texaco D-303 Motor Oil HD*, the motor oil that keeps engines running clean.

Recommended for both diesel and heavy duty gasoline engines, *Texaco D-303 Motor Oil HD* prevents harmful deposits, stops wasteful blow-by—assures more miles per gallon, more

miles between overhauls. The savings will be impressive.

**2.** Protect your wheel bearings by sealing out dirt and moisture with *Texaco Marfak Heavy Duty*, the lubricant that guards against wear and rust and requires no seasonal change.

**3.** Give your chassis continued protection even under the toughest road conditions with *Texaco Marfak*, the lubricant that won't squeeze or



# TEXACO



U. S. Highway 60-70, heading east out of Indio, California, over the Orocopia Mountains.

## to lower maintenance costs

pound out—gives you extra hundreds of miles of protection against wear and rust. (Incidentally, more than 650 million pounds of *Texaco Marfak* have been sold.)

4. Take the pressure off your gear surfaces and extend gear life with *Texaco Universal Gear Lubricant EP*, the transmission and differential lubricant that offers the extra protection of an extreme pressure additive.

Your Texaco Lubrication Engineer can show you how other fleet owners have made these four steps pay off in lower maintenance bills. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

☆ ☆ ☆

The Texas Company, 135 East 42nd Street,  
New York 17, N. Y.

# Lubricants and Fuels

FOR TRUCK AND BUS FLEETS

# Does things no other ring can do!



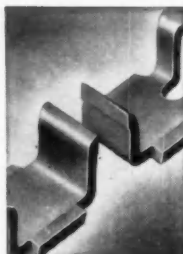
## Sealed Power's NEW Stainless Steel Oil Ring

Now you can put performance into your ring jobs that can't be matched by any other oil ring! Sealed Power's Stainless Steel Oil Ring holds full tension at engine operating temperatures, positively resists corrosion and actually hardens in use.

### DESIGN ADVANTAGES

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Circumferential abutment type design makes the ring independent of contour and depth of piston groove. It exerts its pressure uniformly — conforms more readily to the bore. The SS-50U is easy to assemble on piston.



#### → CHROME RAILS

Full chrome-faced side rails assure long ring life. Special treatment of these rails produces quick seating.



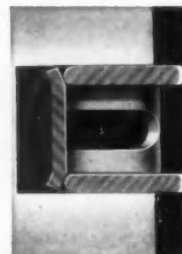
#### ← BETTER OIL CONTROL

assured by uniform radial pressure. Full flow of oil back to crankcase obtained by maximum ventilation.



#### → SIDE-SEALING

is assured by the proper axial pressure of rails against sides of groove. This provides smoke control under high vacuum conditions.



SEALED POWER CORPORATION • MUSKEGON, MICHIGAN

## Sealed Power Piston Rings

BEST FOR RE-RING!

BEST FOR RE-BORE!



# CCJ

## AT YOUR SERVICE

TIMELY NOTES ON MAINTENANCE AND OPERATION Edited by Paul A. Murphy, Technical Editor



### What Done It?

HERE IS a sample as to what can happen if the throw-out bearing is not maintained at a proper adjustment. Under ordinary conditions the factory recommends a free pedal movement that varies from  $\frac{3}{4}$  to  $1\frac{1}{2}$  in. depending on the manufacturer. This adjustment is usually made when the vehicle is setting on level ground with the engine stopped.

Sometimes under load conditions, the torque of the engine reduces the throw-out bearing clearance to zero. Thus, the bearing runs continuously. This causes excessive wear on the throw-out bearing which will in turn run hot and dry, in which case it will rub against the throw-out collar or fingers, and finally wear through the contacting metal parts. Worn or loose engine mounts, clutch linkage, can also be the cause of reduction of the throw-out bearing clearance.

The length of time between pedal adjustments depends on the type of service in which the vehicle is being used, and also to a great extent on the driving habits. The clutch pedal should always be adjusted so that there is a

free movement or slack when starting to depress the pedal. This insures a space between the clutch release collar or fingers and the throw-out bearing when the clutch is fully engaged.

Perhaps the driver should be instructed, and by and large held responsible to report the condition of the clutch under load conditions, as it is just possible that when the throw-out bearing is just starting to fail, it will only show up under driving conditions, and will not be evident when the service man checks the vehicle.

### Power Steering Leak Test

HERE IS a method of checking power steering gear assemblies before the unit is installed in the vehicle. Install a suitable fitting on the inlet side of the valve body to accommodate an air hose. Plug the exit side of the gear box, and submerge the entire gear box assembly in light engine oil. Apply air pressure (caution: not over 100 lb) and observe for air bubbles that indicate leaks. Make an attempt to pinpoint leak to aid corrective measures. If no leak is observed, dry gear assembly and install on vehicle.

### Testing An Automotive Battery

TESTING a storage battery to determine the general condition should be approached somewhat in the same general manner as taking an engine compression test. Each battery cell should be checked with the same amount of accuracy as is shown to individual cylinders during a compression check. Bear in mind just as in a compression test, it is more important to read the total difference between the battery cells, rather than the top reading of the strongest cell.

**Hydrometer Test.** As you can see by the table below, if the difference between the highest and the lowest cells is .050 (50 points) or more, the battery is nearing the end of its useful life and should be replaced. One ex-

(TURN TO PAGE 12, PLEASE)

# A COMPLETE LINE . . .

You can depend upon Wagner Quality  
because Wagner Products  
are used as original equipment  
by manufacturers of cars, trucks,  
buses, and trailers.



**Wagner Lockheed**  
*the best known name in brake service*



# ALL from ONE SOURCE!

## Wagner Lockheed BRAKE SERVICE PRODUCTS

are quickly available . . . to save you time and trouble

You'll save yourself a lot of time, money, and trouble by standardizing on Wagner Lockheed Hydraulic Brake Parts, Fluid, and Lining. They're tops for quality, and all available from the same supplier.

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pistons, springs, washers, hose, etc.—are manufactured to the same specifications as parts used in complete assemblies for original equipment.

WAGNER LOCKHEED BRAKE LINING is unsurpassed for quick, safe, smooth stops, and extra long service life. Available in sets, rolls, blocks, slabs, cut segments, and shoe exchange sets. For a FREE copy of Catalog AU-500 on our complete line of brake products, mail the coupon below.



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FLUID AND LINING...AIR BRAKES...AIR HORNS...  
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# 6¢ worth of detergent to clean this truck

... says dairy  
using Oakite Foam Spray Unit

Recently, a North Carolina dairy decided to go modern in its truck-cleaning operation. It switched from the old bucket-and-brush method to Oakite Foam Spray cleaning, with Oakite Composition No. 70 as detergent. Here is what this dairy reports:

**CLEANING TIME CUT.** Start to finish, it takes only 15 minutes to bring a soiled truck to sparkling clean condition.

**DETERGENT COST CUT.** Using an 8 oz./gal. solution, cost of O.C. 70 is less than 6¢ per truck. Reason: powerful O.C. 70, sprayed on as a lather by Oakite's Foam Unit, clings like a leech to sides of truck. No wastage by drip to ground, no wastage between brush and bucket.

And best of all, reports this dairy, trucks come through the fast, low-cost wash looking better than ever,

Your local Oakite Service man will show you how to do a faster, better fleet-washing job at less cost. Call him. Or, for more information on modern truck cleaning methods, write for Booklet F9254 to Oakite Products, Inc., 52G Rector St., New York 6, N. Y.



Oakite Foam Spray Unit, special tool developed for fleet-washing the modern way.



Export Division  
Cable Address: Oakite

Technical Service Representatives in Principal Cities of U. S. and Canada

## CCJ AT YOUR SERVICE

Continued from Page 9

ception to this rule would be if the highest cell reading is less than 1.190, the test for condition is questionable. Recharge the battery and make the test again. For example: (1) Readings—1.230, 1.220, 1.220—Condition: OK, (2) Readings — 1.250, 1.180, 1.240 — Condition: Worn-Out.

State of Charge	Specific Gravity
100%	1.260
75%	1.225
50%	1.190
25%	1.155

**Voltmeter Test.** If the difference between the highest and lowest cell is .05 volts or more, the battery is nearing the end of its useful life and should be replaced. However if the highest cell reads less than 2.03 volts, the test for condition is questionable. Recharge the battery and make the test again. For example: (1) Readings—2.07, 2.06, 2.06—Condition: OK, (2) Readings — 2.09, 2.02 2.08 — Condition: Worn-Out.

State of Charge	Voltage Reading
100%	2.10
75%	2.07
50%	2.03
25%	2.00

**Pull Test.** A load test following a full recharge is the preferred method of determining serviceability. It tests the battery under conditions which approximate starting an engine and often reveals plate wear before it becomes evident as difference between the cells.

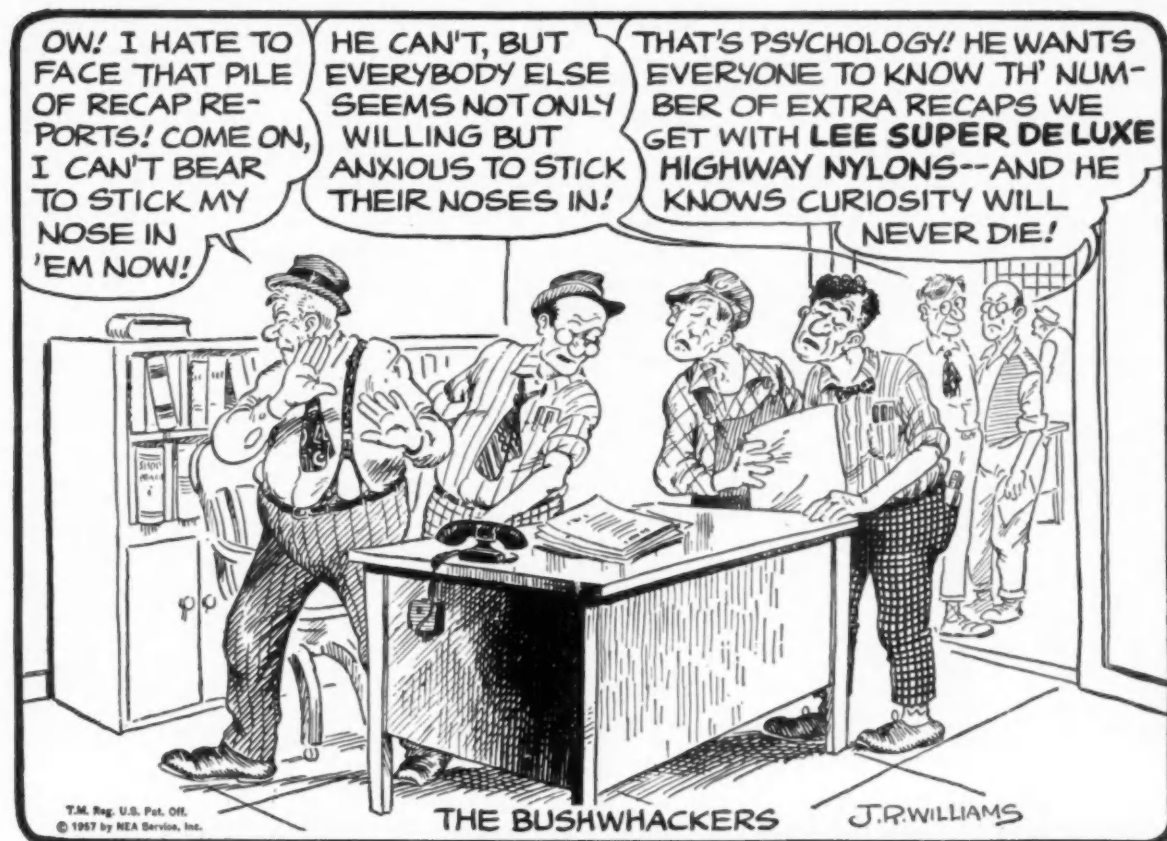
There are two widely used methods of running a load test. One is to load the fully charged battery by turning on the headlights and engaging the engine starter, and at the same time use a voltmeter to check the voltage drop on each cell respectively. Another is to remove the battery from the vehicle and place it on a load type tester and load it according to the gage manufacturer's specifications.

### Dry Charge Batteries

**SOME IMPORTANT** hints on the management and care of dry charge storage batteries were given by H. D. Wilson, Ford Motor Co., in his talk at the SAE National Passenger Car Meeting in Detroit last month. How long can dry-charged batteries be stored? Assuming they have been made properly, Wilson says, that when stored under best conditions, the batteries

(TURN TO PAGE 16, PLEASE)





## MORE MILES PER DOLLAR

with Lee Super DeLuxe Highway Nylons—they give you more recaps!

The Lee Super DeLuxe Highway Nylon Truck Tire *costs less per mile*. That's because its premium features result in long original mileage and greater carcass strength for multiple recaps.

The extra-strong, extra-tough nylon cord provides maximum protection against impact bruises, blowouts and moisture damage. Nylon gives you a cooler-running tire, too, because there is less bulk. All cords are treated by Lee's exclusive double-dip Flexlok process which reduces heat, resists the effects of repeated flexing, and makes cord separation from the rubber bond practically impossible.

Every component of the tread design contributes to maximum mileage, better traction and cooler running. Only

the best grade of Smoked Sheet natural rubber is used. The flat contour and the deep tread put more rubber on the road to distribute the load and increase tire life. Angular center-tread grooves and the bars between the ribs help prevent little cuts from becoming big cracks.

Lee Super DeLuxe Highway Nylons—tubed or tubeless—are an outstanding tire buy! Write direct, or look for "Lee of Conshohocken" in the Yellow Pages of your Telephone Directory.

The complete Lee line, shown below, includes a tire which will lower *your* operating costs by giving longer life, more recaps. Let us prove it to you.



LEE RUBBER & TIRE CORPORATION

CONSHOHOCKEN, PA.



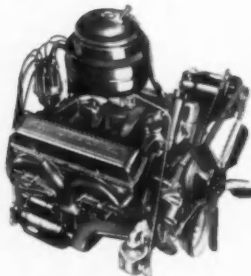
## POWERFUL REASONS WHY A CHEVROLET

*Chevrolet truck components are efficient performers—and that means top economy and dependability! Modern, lean-muscled V8's, for example, use less power to haul their own weight and put more power into hustling your cargoes. And Chevy 6's are sound yet simple in design to provide plenty of low-cost power and the ability to keep going in rugged service!*

### COMPACT CHEVY V8

(Weighs up to 150 lbs. less than others)

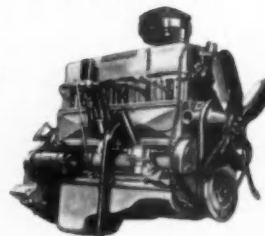
- Shortest stroke of any truck V8
- Short, durable connecting rods
- Vertically compact cylinder block
- Rugged yet light crankshaft
- Efficient hydraulic valve lifters
- Long-wearing Moraine bearings



### FAMOUS CHEVY 6

(America's most popular truck engine)

- Fuel-saving 8 to 1 compression ratio
- Low-maintenance valve-in-head design
- Durable alloy steel exhaust valves
- Economical bypass cooling
- High power-output ignition
- Two fuel filters for dependability





## STAYS ON THE JOB...SAVES ON THE JOB!

You can't take it away from these big Chevies—they're the dollar savers *de luxe* of the American road! One fact bears this out completely: men who depend on trucks for their living consistently prefer Chevrolet over all other makes, consistently put Chevy at the head of the class in popularity.

There are lots of reasons why, and many of them can be found beneath the Chevrolet truck hood. That's where you'll often find one of the great 6-cylinder powerplants (Thrifmaster or Jobmaster) that have pulled more payload more miles than any other engines in the history of hauling. They're honest-to-goodness truck engines, specially built to *stay* and *save* on the kind of jobs that test a truck's stamina every day in the week.

And the husky V8's that hum beneath the Chevy hood offer the same brand of economy and dependability—as well as a new measure of fleet-going V8 efficiency.

You won't find features to equal all those listed here (see preceding page) in any other truck V8's today.

But ideal truck power isn't the only reason why Chevy's the top dollar saver—not by a long shot! You've got to go even deeper to see the whole picture; down to the smooth, durable Synchro-Mesh manual transmissions and modern automatic drives, the big, long-lasting brakes, the mighty forged-steel axles.

You'll find that a Chevrolet truck gives you *so much* to save with! We've only hit the high spots here, but your Chevrolet dealer is waiting to fill you in on the rest. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



*Biggest sellers . . . because they're biggest savers!*

## CHEVROLET TASK-FORCE 57 TRUCKS

# CCJ AT YOUR SERVICE

Continued from Page 12

have been known to retain a high percentage of their charge for several years. But, he cautions, it is not safe to depend on this.

When making the dry-charge battery wet, Wilson mentions some important conditions. First of all, both the battery and acid should be held at a temperature above 60° F when combined. Test results have indicated that the best conditions are obtained when both battery and acid are at 80° F when combined. Then the battery will give its highest output right at the start.

In service, battery life depends largely on the amount of charging it receives. Either too much or too little is detrimental. Longest life is obtained when the battery is maintained in the upper quarter of the charged state and water consumption is at a minimum. Excessive need of water is usually indicative of excessive charging and is a signal that the voltage regulators should be readjusted to a lower voltage

setting. This is especially true in extremely warm climate or in the case of drivers running very high mileage. Factory settings are intended for normal city driving conditions. Battery life can be greatly extended by closer attention to voltage regulator settings and regular observation of water consumption.

## Tire Thump Locating

IT IS sometimes difficult to locate which tire is the cause of the road thump. Here is a method proven in service. On passenger car size tires inflate the tires to 50 lb, then drive the vehicle on the road and see if the thumping disappears. By deflating one tire at a time to the recommended pressure and making a short test run after each deflation until the thumping tire is located. Larger size tires use air pressure proportionately higher.

## Ford Acceleration Stumble

ACCELERATION stumble on 1957 Fords equipped with Holley two or four barrel carburetors may be caused by a blocked passage in the accelerating pump circuit, according to a recent factory service bulletin. The fuel bowl and metering block which are not properly aligned will press the accelerating pump cir-

(TURN TO PAGE 20, PLEASE)

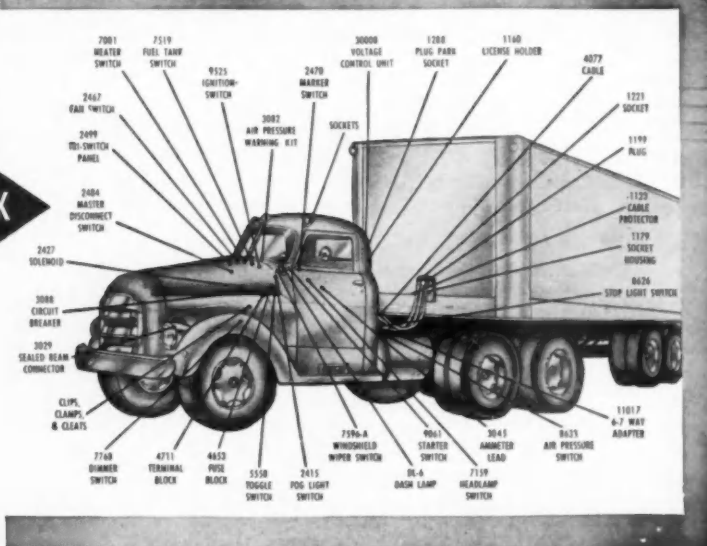
## COLE-HERSEE QUALITY ELECTRICAL PRODUCTS

FOR EVERY BUS AND TRUCK

DESIGNED TO CARRY THE  
HEAVIEST LOADS UNDER THE  
TOUGHEST CONDITIONS

Fleet operators everywhere recognize and ask for Cole-Hersee electrical products because they know the name Cole-Hersee means quality and dependability. Cole-Hersee units are designed and engineered to meet the higher voltages, heavier loads and tougher service encountered in commercial use.

Cole-Hersee truck and bus products are carried by leading jobbers everywhere. Specify Cole-Hersee for the safest, most dependable, long-lasting electrical products you can buy.



These are only representative items. See our catalog for the complete line.

SEND FOR THE COLE-HERSEE TRUCK AND BUS CATALOG D-188.



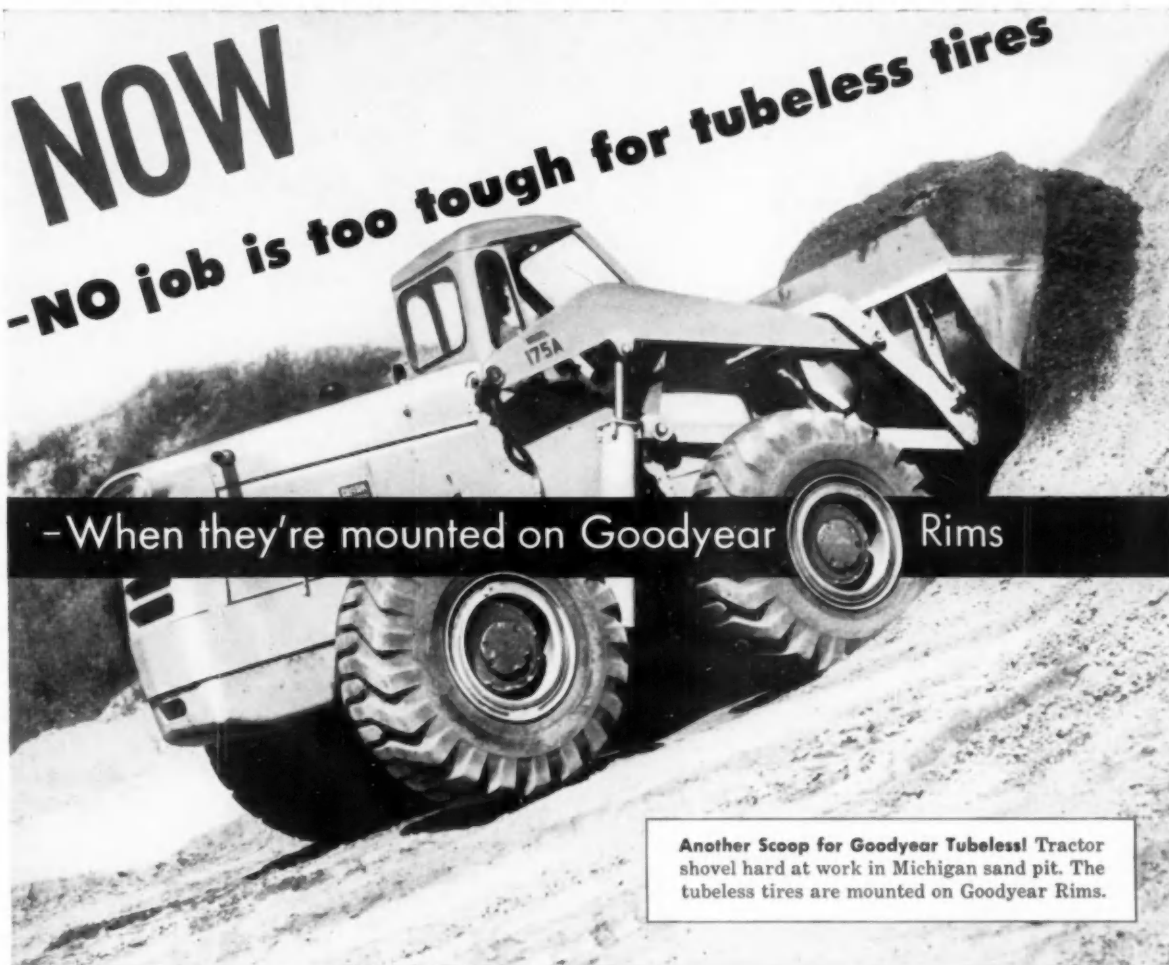
**COLE-HERSEE**  
Over 40 Years of Consistently Better Products

20 OLD COLONY AVENUE, BOSTON 27, MASS.



**NOW**  
**-NO job is too tough for tubeless tires**

**-When they're mounted on Goodyear Rims**



Another Scoop for Goodyear Tubeless! Tractor shovel hard at work in Michigan sand pit. The tubeless tires are mounted on Goodyear Rims.

Here you see just a sample of the tough jobs tubeless tires are doing — in today's mammoth construction projects. How did tubeless tires get into this picture—and so successfully, too?

One of the biggest reasons is Goodyear's development of rims to fit every type of vehicle, from the smallest truck to the largest earth-mover.

Goodyear's vast tire-building experience brings many benefits to rim construction. With Goodyear Rims, you profit by such advantages as:

**Unusual Strength:** Thanks to an exclusive double-welding process, and added support at points of greatest stress, present-day Goodyear Rims are far stronger.

**Ease of Tire Mounting:** No tube and flap troubles.

**Special Tools:** Goodyear alone provides both hydraulic and hand tools especially made for off-the-road equipment.

**Bond-a-Coat Finish:** This protective coating affords long-lasting resistance to rust and corrosion.

**Got a Truck Rim Problem? GOODYEAR will solve it.**

If you have a rim problem, why not talk it over with the G. R. E. (Goodyear Rim Engineer). He'll save you time and money by helping you select the type and size of rim best suited to your needs. Write him at Goodyear, Metal Products Division, Akron 16, Ohio, or contact your local Goodyear Rim Distributor.

**Buy and  
Specify**

**GOOD YEAR**

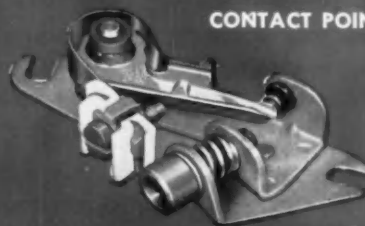
MORE TONS ARE CARRIED ON GOODYEAR RIMS THAN ON ANY OTHER KIND

DISTRIBUTOR CAP



For like-new distributor performance, always replace with these Delco-Remy original equipment service parts.

CONTACT POINT SET



DISTRIBUTOR ROTOR



# **DELCO-REMY ORIGINAL EQUIPMENT SERVICE PARTS RESTORE LIKE-NEW PERFORMANCE TO DELCO-REMY EXTERNAL ADJUSTMENT DISTRIBUTORS**

Like-new performance can be easily restored in Delco-Remy external adjustment distributors when Delco-Remy original equipment service parts are used. Naturally so, for these parts are identical in every quality detail to the parts that went into the distributor when it was manufactured.

## **DELCO-REMY PARTS WORK BETTER BECAUSE**

- 1** DISTRIBUTOR CAPS are *designed* and *built* with specific characteristics including: functional overall shape; precision fit; scientifically shaped, voltage-saving internal ribbing; highly dielectric, shock-resistant quality materials.
- 2** ROTORS are *designed* and *built* to combine maximum strength with minimum weight; with superior balance to insure smooth rotation at high speeds; with voltage-saving contours for trouble-free, easy mounting and for radio noise suppression (resistor models).
- 3** CONTACT SETS are one-piece assemblies, precisely adjusted and aligned; easier to install and readily adjustable *while the engine is running!*

Always replace with Delco-Remy original equipment service parts when you service Delco-Remy equipped cars and trucks. They are available from your car or truck dealer or the United Motors System.

**DELCO - REMY • DIVISION OF GENERAL MOTORS • ANDERSON, INDIANA**



**GENERAL MOTORS LEADS THE WAY—STARTING WITH**

# **Delco-Remy**

**ELECTRICAL SYSTEMS**

Continued from Page 16

cuit ferrule into the metering block and close the circuit. The ferrule, in this case, should be removed and repositioned as follows:

1. Obtain a small piece of wire with an outside diameter approximately the same as the inside diameter of the ferrule.

2. Slip the end of the wire into the ferrule and then, using a small pair of side cutters or similar tool, gently work the ferrule from the metering block. The wire is used only to keep the ferrule from collapsing.

3. Reposition the ferrule, remove the wire, and then assemble the fuel bowl to the metering block taking care to align all parts.

## Valve Head Breakage

SOME FLEET operators have had some trouble with exhaust valves breaking at the neck or junction of the stem. When this problem first came to light it was thought that excessive engine speed was responsible for

exhaust valve failures. A leading valve manufacturer has a more logical explanation, for this failure that also ties in with excessive engine speed.

According to the valve manufacturer the failure is caused by one thing, seating the valve at a speed or velocity that imparts a load too great for the material to withstand. Chief among the causes for excessive closing speed is valve clearance. While the effects of this factor increases with increased engine speed, it has the same effect as a worn camshaft.

For this reason it is much more important that the service man maintain factory recommended valve clearances. It is just possible that with excessive valve clearance the engine will run into valve damage even though the engine is never operated at excessive rpm.

## Chevrolet V-8 Timing

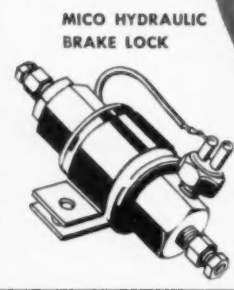
THE PRACTICE of setting Chevrolet V-8 timing with the vacuum advance disconnected and the engine operating at 1000 rpm is no longer recommended. A spark setting performed at engine idle is not only adequate but will also simplify service procedure. Recommend ignition timing in all V-8 engines is now with the engine operating at idle speed and the vacuum advance connected on distributors so equipped. Correct spark setting at engine idle (TURN TO PAGE 24, PLEASE)

# MICO HYDRAULIC PARKING LEVER LOCK

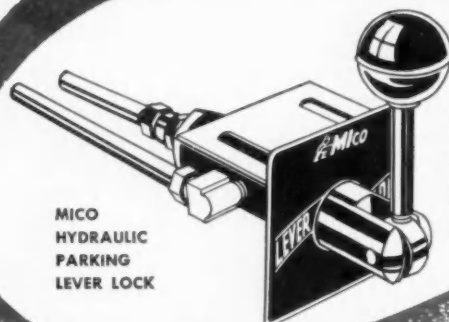
Electrically actuated units shown below also available



MICO AIR BRAKE LOCK



MICO HYDRAULIC BRAKE LOCK



MICO HYDRAULIC PARKING LEVER LOCK

Simply raise the lever, step on the pedal and the biggest truck, the heaviest, load is SAFE!

IT'LL HOLD 'EM ON A DIME!

- EASY MANUAL RELEASE • NO ROLL BACK EVER!
- WILL NOT INTERFERE WITH A NORMAL BRAKING OPERATION
- SIMPLE TO INSTALL • SELF SEALING HYDRAULIC CHECK VALVE DESIGN

**MINNESOTA AUTOMOTIVE, INC.**

1101 NORTH FRONT ST.  
MANKATO, MINNESOTA

Write for information on all MICO Brake Products



Post Hole Digger



Cement Mixer



Ditch Digger



Dump Trucks



Tow Trucks



Fire Equipment



# Have you tried Grey-Rock

## "TIMBER KING" BLOCKS?

The molded-woven combination blocks that increase lining life, overcome heat fade, reduce drum breakage on toughest runs



For years operators of big rigs on the toughest runs have looked for longer lining life, less heat fade, better braking, fewer broken drums. Now, with "Timber King" sets, Grey-Rock answers these problems.

"Timber King" blocks have shown extraordinary results under the roughest conditions on the road. The secret is the woven block used in combination with the right molded block. A special weave, which provides slight compressibility of the woven material, assures

full lining-to-drum contact, eliminating localized high temperatures. A special alloy of zinc wire in the woven block tends to dissipate heat from the braking surface and conditions the drum.

Many fleet brake problems can be licked with regular Grey-Rock blocks. But where braking conditions are severe—where something for heavier and more rugged service is needed—Grey-Rock "Timber King" blocks are the answer. Ask your Grey-Rock jobber about them.

Only **Grey-Rock** makes

### BALANCED BRAKSET LININGS

BALANCED BRAKSETS • TRUCKSETS • BRAKE BLOCKS • VEE-LOK® CLUTCH FACINGS

GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.



RAYBESTOS-MANHATTAN, INC., Brake Linings • Brake Blocks • Clutch Facings • Mechanical Packings • Asbestos Textiles • Industrial Rubber • Sintered Metal Products • Engineered Plastics • Rubber Covered Equipment • Abrasive and Diamond Wheels • Laundry Pads and Covers • Bowling Balls • Industrial Adhesives

*With* **GREY-ROCK**  
*you can...*



### SEE the Difference

See the difference in the many friction materials Grey-Rock uses. For light trucks—Balanced Trucksets, in distinctive woven and molded combinations, or in all-woven or all-molded sets. For heavy jobs—Balanced Blocks in combinations of molded materials, and "Timber King" molded-woven sets. All specially engineered for each make and model.



### FEEL the Difference

Feel the difference in faster, smoother brake action—minimum fade—quicker water recovery—and a good pedal that assures driver peace of mind. Grey-Rock gives you the superior braking features you want and need.



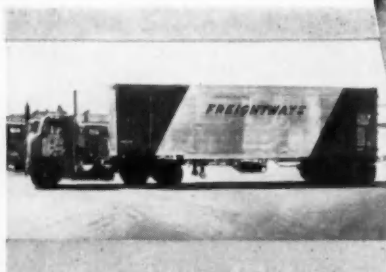
### SAVE the Difference

You save because Grey-Rock Balanced Brake Blocks and Balanced Trucksets give more miles between relines—longer drum life—better tire wear—less labor and downtime. See your Grey-Rock jobber.

# Follow the lead of the *Specify* **GENERAL**



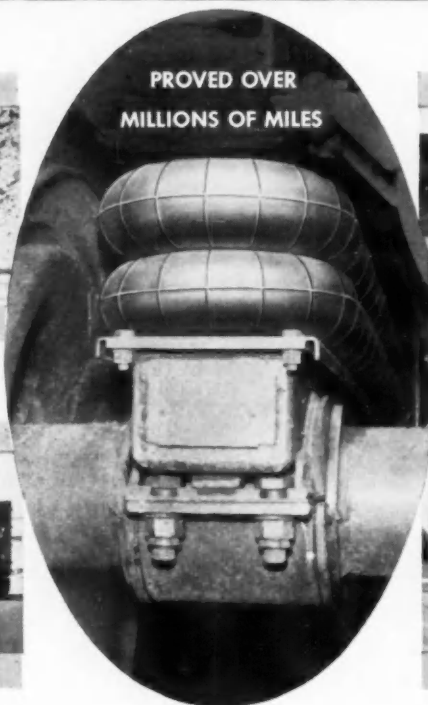
Pacific Intermountain Express, Oakland, Cal.



Consolidated Freightways, Inc., Portland, Oregon



Eldon Miller, Inc., Iowa City, Ia.



Transcon Lines, Los Angeles, Cal.



Yellow Transit Freight Lines, Inc., Kansas City, Mo.



Roadway Express, Akron, Ohio



A. F. Posnik, Inc., Detroit, Mich.

**THE GENERAL TIRE & RUBBER COMPANY**

# big fleet operators!

# AIR SPRINGS

**on new equipment for  
bigger payloads . . . lower costs  
and maximum cargo protection!**

From coast to coast, thrift-minded fleet owners daily are counting the welcome savings in maintenance and operating costs made possible by dependable General Air Springs.

On trailers and tankers alike, General Air Springs are engineered to cushion all-type loads and equipment against damaging road shocks and

vibration, provide more payload space for bigger profits.

In addition, General Air Springs keep loads at an even keel, doors tightly sealed against outside elements.

You too, can reduce costs and increase profits with General Air Springs. Order today for new equipment or plan to convert your present units.

**Complete suspensions with  
GENERAL AIR SPRINGS  
are immediately available from:**

- ★ Homan & Company, Incorporated, Cincinnati, Ohio
- ★ Neway Company, Muskegon, Michigan
- ★ Krause Corporation, Hutchinson, Kansas
- ★ Spencer-Safford Loadcraft, Inc., Augusta, Kansas
- ★ Trucktor Corporation, Mountainside, New Jersey
- ★ Youngstown Steel Car Co., Niles, Ohio

**THE  
GENERAL  
AIR SPRING**

**Akron, Ohio • Air Spring Division • MEMBER OF T. T. M. A.**



## THIS ANTHONY LIFT GATE is saving time for NEIMAN-MARCUS

Company official says,  
"Lift Gates are definitely time-savers."

If you're interested in cutting delivery costs, take this tip from Marlin Davis. He's the gentleman in charge of the warehouse and delivery trucks for Neiman-Marcus, famed Dallas store of high fashion.

Mr. Davis has used the same Anthony Lift Gates since 1942 . . . their upkeep has been "nominal." Daily deliveries between the warehouse and both Neiman-Marcus stores have proved the Lift Gates especially necessary due to the absence of a loading dock at the downtown store. Heavy, awkward merchandise is rolled or pushed onto the Anthony Lift Gates by only one or two men. There's no time wasted in waiting for additional men to help load or unload. With no manual lifting involved, the chance of costly damage to merchandise is radically reduced.

See for yourself how efficient and economical an Anthony Lift Gate can be . . . with your deliveries! Write for complete descriptive literature.

### Buy the lift gate that has the service

Anthony Distributors are located from coast to coast ready to help you solve your delivery problems. Write today for a complete Anthony Distributor list.

ANTHONY  
5-POINT PLAN  
TO LOWER  
DELIVERY COSTS

- Increase the number of deliveries and reduce fixed costs per delivery.
- Strengthen reputation for faster, improved service.
- Increase earning time of trucks and earning power of men.
- Cut standing time waiting for consignee help.
- Reduce the danger of damaged goods (and disgruntled consignees).

WRITE: 1757 Baker Street

**ANTHONY COMPANY**  
STREATOR, ILL.

**CCJ** AT YOUR SERVICE

Continued from Page 20

for all V-8 engine applications in model years '55 through '57 is 4° before top dead center. The graduations of the timing tab attached to the engine timing gear cover are in two degree increments. This means each mark equals two degrees (Courtesy—Chevrolet Service News).

### Checking Dodge V-8 Dwell

WE FIND that some of the ignition distributors on V-8 Dodge trucks are being removed unnecessarily. This removal is prompted when the mechanic uses a dwell meter to check out the distributor and, upon finding a dwell change as much as 10° with a full vacuum advance, comes to the conclusion that the distributor should be removed for overhaul.

The new single breaker distributor used on the 1957 Dodge V-8 engines, except the D-500-1 has a pivoted type breaker plate. Since the pivot is off-center in relation to the cam, any rotary movement of the plate by vacuum advance will cause a change in point opening and a corresponding change in dwell. This decrease in dwell does not affect engine performance since the change occurs only at part throttle when the spark plug voltage requirement is low. At idle and at wide open throttle, the dwell is at its highest for maximum voltage of the spark plugs.

When checking dwell, it is recommended that the vacuum line be disconnected. With breaker point opening of .015 to .018 in. the dwell should be between 27 to 32°. The vacuum line should then be connected and dwell noted at full vacuum advance. However, if the change is more than 12°, check the breaker points for alignment, excessive metal transfer, blue or black discoloration, oil, dirt, or a worn pivot bushing at the breaker plate.

### Crankshaft and Con Rod Holes

TO CLEAN oil holes in crankshafts and connecting rods, take a piece of choke cable 8 to 10 in. long and chuck into a 1/4-in. drill. Crimp the cable approximately 1 1/2 in. from the leading end to aid in the cleaning operation. Speed of the drill will create the necessary momentum to swell the choke cable at the kink to cause the necessary friction inside the oil hole to remove any forms of sludge, carbon,

(TURN TO PAGE 28, PLEASE)

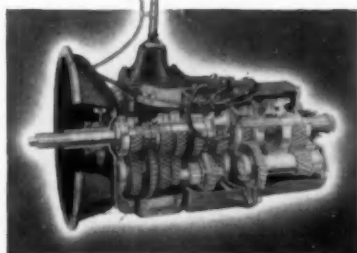




One of Yule's new C.O.E. International Tractors with Fuller 8-speed ROADRANGER Transmission

## *YULE eliminates transmission problems with FULLER 8-speed ROADRANGERS®*

Fuller R-46  
ROADRANGER  
Semi-Automatic  
Transmission



**FULLER**  
*Fuller*  
**TRANSMISSIONS**

FULLER MANUFACTURING CO. Transmission Division • Kalamazoo, Mich.  
Unit Drop Forge Div., Milwaukee 1, Wis. • Shaler Aule Co., Louisville,  
Ky. (Subsidiary) • Sales & Service, All Products, West. Dist. Branch,  
Oakland 8, Cal. and Southwest. Dist. Office, Tulsa 3, Okla.

Says V. A. Martell, President of Yule Truck Lines, Inc., Milwaukee, Wisconsin: "Fuller ROADRANGERS have eliminated all our transmission problems. We get the kind of gearing we need to take us through any kind of traffic and road condition. After continuous testing under every conceivable condition, the Fuller 8-speed semi-automatic ROADRANGER Transmission thoroughly proved itself. Our drivers say: 'This is it!' and they wouldn't have anything else."

"And," adds E. A. Jenkins, General Manager—Operations: "We will have ROADRANGERS in our future units for sure. For our operation, ROADRANGER Transmissions, C.O.E. tractors and big engines are the answer. Our maintenance superintendent credits the Fuller ROADRANGER Transmission with increased effi-

ciency and with decreased maintenance cost."

Yule's latest fleet additions include 10 International CO-205 Tractors with RD-450 Engines, and 5 International R-195 Tractors with RD-406 Engines . . . all equipped with Fuller 8-speed semi-automatic ROADRANGER Transmissions.

The same outstanding ROADRANGER Transmission advantages . . . low maintenance costs—easier, quicker shifts—higher average road speeds—greater fuel economy—38% steps between ratios keep engines operating in the high rpm range—less driver fatigue—space-and-weight saving economies . . . can be applied to your operation.

For complete details on Fuller ROADRANGERS, see your truck manufacturer or truck dealer now!

# NEW ARMSTRONG TIRE



## ROLLS 114,000 MI. BEFORE FIRST RECAP!

**Rolling doesn't wear off rubber — scuffing does. Armstrong's new design checks scuffing, gives phenomenal mileage.**

"114,000 miles over rugged Maine roads — and still good for a lot more!" That's typical of letters in our files testifying to the amazing mileage Armstrong's new Miracle S-D Tires run up — because they "kiss the road".

Tire engineers have long known that so long as a tire *rolls* freely, tread wear is negligible. But when design causes rubber to be dragged, even a fraction of an inch, scuffing causes rapid wear.

Miracle S-D Armstrong Tires lick scuffing two exclusive, patented ways. Interlocking sipes let the tread *kiss* the road hello and goodbye. And intratread bumpers (see diagram) permit deep-tread ribs that *can't* weave. Traction goes sharply UP; scuffing, slipping and skidding go sharply DOWN. Run your own test on these new tires that "kiss the road" — and revise your ideas of how long over-the-road tires can last.

Exclusive interlocking sipes grip road in all direction, yet "kiss" the road and leave it without *fore-and-aft* scuffing.



Exclusive intratread bumpers prevent deep tread from weaving under load or braking pressure, greatly reduce *side-to-side* scuffing.

## ARMSTRONG MIRACLE S-D TRUCK TIRES

The Armstrong Rubber Co., Home Office, West Haven, Conn.

From your National Oil Seal Jobber

## Free Custom Service for Fleet Operators



### IT WORKS THIS WAY—

1. Your jobber inventories your fleet's oil seal needs
2. He installs and maintains custom stock of correct seals
3. He modifies stock as your equipment changes
4. You have seals when needed; no extra down time while sending out for seals
5. You get perfect replacement since National seals are original equipment seals
6. All this costs you nothing more—you get competitive prices on seals.

Call your jobber about it today



### FEDERAL-MOGUL SERVICE

Division of Federal-Mogul-Bower Bearings, Inc.  
Detroit 13, Michigan

Continued from Page 24

etc. Be doubly sure by blowing out by compressed air after this operation (Courtesy—Engine Rebuilders Assn.).

## Tire Inflation Versus Load

IN ORDER to provide normal flexing, with proper deflection, and normal road control, tires should be inflated according to the load carried. Although tire design (1) recognizes that tire temperature and inflation pressure increases while the vehicle is in operation, and (2) allows for a build-up in normal highway service, other load and inflation limits as recommended by the tire manufacturer, may be in order.

An important factor to be considered is the weight carried on each tire. In cases where larger tires are used on the rear of the vehicle in order to carry the required load and the same size tire is used on the front for con-

venience (one spare) it is of utmost importance that the actual load carried by the front tire as well as the rear, is determined, then tires should be inflated to their respective loads. Over-inflated front tires are often responsible for transfer of road shock to vehicle front end parts, hard riding unstable control of steering and undue tire wear.

## Oxygen Cylinder Care

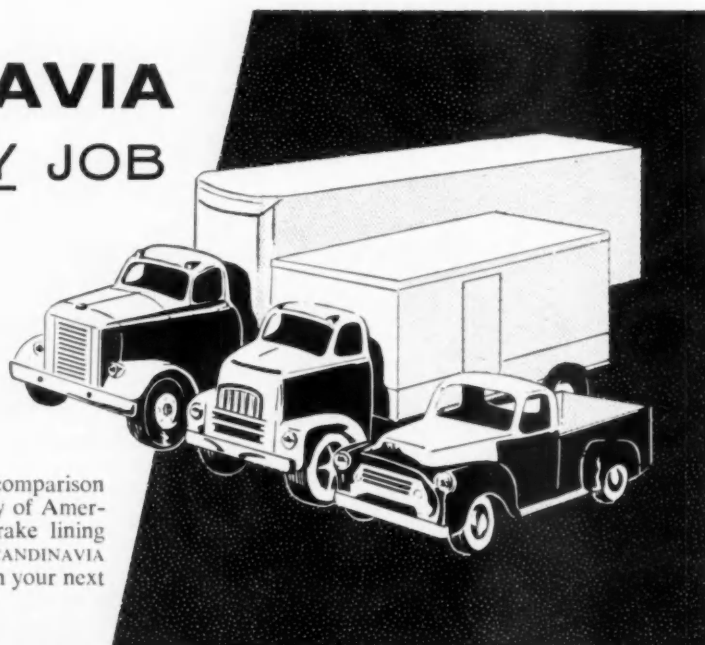
BEFORE MOVING an oxygen cylinder, check the valve protection cap. Don't depend on anyone else. Be sure the cap is on straight and hand-tighten it yourself. If you find a cylinder lying on its side, make sure the cap is tight, then grasp the cap and raise the cylinder to a standing position. Never use the cap to lift a cylinder clear of the floor.

If a cylinder valve can't be opened by hand, leave it alone. And if you receive a damaged cylinder, don't try to repair it yourself. Tag such a cylinder as defective to prevent somebody else from using it. Then notify your supplier. He should replace it with a cylinder in proper working condition.

Keep oxygen cylinders away from oily or greasy substances, never leave them where oil or grease can fall on them, don't handle them with oily hands or gloves. Oxygen won't burn, but it supports and accelerates combustion.

## SCANDINAVIA —FOR EVERY JOB

From your largest rig to the smallest, a SCANDINAVIA BRAKE LINING is specifically engineered for each job. Whether your operation is cross-town or cross-country—SCANDINAVIA'S experience pays off in lowest cost-per-mile brake lining maintenance. SCANDINAVIA ZT-MOLDED COMBINATION brake block sets have set unequalled top standards of comparison—proved over and over again on many of America's leading fleets. If you have a brake lining problem—get in touch with your SCANDINAVIA distributor or write us for his name. On your next tough job, test-install SCANDINAVIA.



BRAKE  
BLOCKS

• SCANDINAVIA •

BRAKE  
LININGS

DIVISION OF SCANDINAVIA BELTING COMPANY, 744 BROAD ST. (P.O. BOX 464) NEWARK 1, N. J.  
WAREHOUSE: 250 CENTRAL AVE., NEWARK 1, N. J. • PLANT: CHARLOTTE 1, N. C.  
BRANCHES IN CAMBRIDGE, MASS., INDIANAPOLIS, INDIANA AND CLEVELAND, OHIO





# Want to get there Quicker, Safer, at Lower Cost?

## Eaton 2-Speed Axles Will Do It!

Eaton 2-Speed Axle trucks make quicker, full-load trips—with no sacrifice of power when it's needed to pull out of the tough spots. But they do more than save time; they save money, too. With double the conventional number of gear ratios right at their finger tips, drivers use the right gear ratio for every operating condition. This lets engines operate in their most efficient and economical speed range; stress and wear are reduced right down the line from the engine to the axle itself. Operating and maintenance costs are cut to the bone. And through improved maneuverability and reduced driver fatigue, Eaton 2-Speed Axle trucks make not only quicker trips but safer ones. They haul more at lower cost per mile, last longer, and are worth more when traded in.



More than Two Million  
Eaton Axles in Trucks Today.  
For complete information,  
see your truck dealer.

# EATON

AXLE DIVISION  
MANUFACTURING COMPANY  
CLEVELAND, OHIO



**PRODUCTS:** Engine Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Hydraulic Pumps  
Motor Truck Axles • Permanent Mold Gray Iron Castings • Forgings • Heater-Defroster Units • Automotive Air Conditioning  
Fastening Devices • Cold Drawn Steel • Stampings • Gears • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

## ENGINEER'S FIELD REPORT

RPM MULTI-SERVICE  
PRODUCT GEAR LUBRICANT  
YAKIMA CEMENT PRODUCTS CO.  
FIRM Yakima, Washington

### No scoring or pitting of differential gears in 6 years



In Six Years of using RPM Multi-Service Gear Lubricant, not one differential in the entire 20-truck fleet of Yakima Cement Products Co. has shown any scoring or pitting of gear teeth. Despite grueling service delivering ready-mix concrete and other

building materials to off-highway construction sites, lubricant has never failed to do its job. Firm's six-wheel-drive trucks supply sand, gravel, ready-mix concrete, and fabricated concrete products to projects within 100 miles of Yakima, Washington.



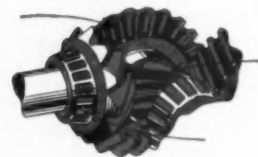
**Ready-Mix Truck** like rest of firm's vehicles, is rebuilt Army surplus 2½-3 ton International. "In the fleet of 21 six-wheel-drive trucks, we have never had a transmission or differential failure due to lubrication, despite our severe operating conditions since we started using RPM Multi-Service Gear Lubricant," says firm's chief mechanic, Art Weber. This lubricant is also used in all mixer drive gear boxes.



TRADEMARK "RPM DELO" AND  
DESIGN REG. U. S. PAT. OFF.

STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20  
THE CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey

### Why RPM Multi-Service Gear Lubricant prevents wear



•Special compound forms protective lubricating coating on gears by chemical reaction with metal...resists rubbing action of hypoid gear teeth.

•Withstands extreme temperatures and pressures...highly oxidation resistant...keeps bearings and gears cool.

•Inhibitors resist rusting, stop foaming...lubricates integral bearings...will not separate.

For More Information or field help with any fuel or lubrication problem, contact representative of any company listed or write direct.

STANDARD OIL COMPANY OF TEXAS, El Paso  
THE CALIFORNIA COMPANY, Denver 1, Colorado

COMMERCIAL CAR JOURNAL, June, 1957

# Healthy Truck Drivers Mean Healthier Profits!

Akers Motor Lines keeps  
drivers in top shape by  
providing BOSTROM



TRUCK SEATS



Operating 265 truck-tractors over many miles calls for tight schedules and top-flight personnel. Akers Motor Lines, Inc., Gastonia, N.C., operates this large fleet along the Eastern seaboard from Georgia to Massachusetts with clock-like precision.

Claude Schlagenhauf—Akers' Director of Safety and Personnel—gives "Bostrom Level Ride 80 Truck Seats" a large share of the credit for keeping drivers in top physical condition over all types of routes from paved city streets to rough country roads. "We have a number of experienced, valued drivers with us who would have been forced to give up truck driving because of spinal and kidney disorders before the Bostrom Level Ride 80 seats were installed."



Giant rubber torsion springs in the seat suspension system act like "muscles" soaking up jolts and bumps and road vibrations that conventional seats multiply . . . actually give the driver a "five times better ride."

Bostrom Level Ride 80 is available factory installed on all major makes of trucks and as a replacement seat for every truck. See your truck dealer or truck parts distributor . . . TODAY!

**BOSTROM** TRUCK SEATS

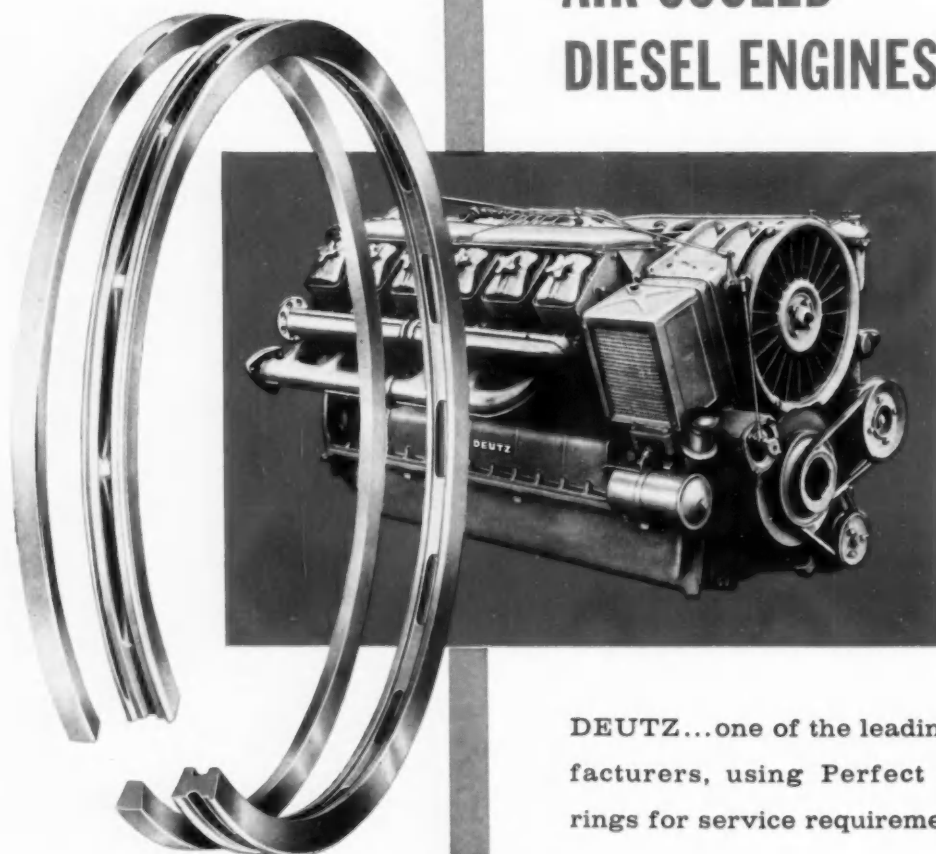
BOSTROM MANUFACTURING COMPANY

100 W. OREGON ST., MILWAUKEE 4, WIS.

For  
Best Performance in

**DEUTZ**

**AIR-COOLED  
DIESEL ENGINES**



DEUTZ...one of the leading engine manufacturers, using Perfect Circle chrome rings for service requirements

**PERFECT CIRCLE**

**PISTON RINGS...***the standard of comparison*





# UP FRONT WITH **CCJ**

JUNE 1957 FLEET HIGHLIGHTS AS REPORTED BY COMMERCIAL CAR JOURNAL

**MR. EXECUTIVE,** Should public utilities (electric, gas, water) be reimbursed for costs of moving their facilities because of highway construction? Many highway experts say, "No." They look upon it as diversion of needed highway building funds. Legislators in 36 states have debated the issue this year. So far, laws providing reimbursement have been enacted in nine states. In another nine, the proposals were killed in the legislature. In five, they met with a governor's veto. The State Supreme Court in Maine declared such a bill unconstitutional before it was out of the legislature. Still pending at press time were similar proposals in Connecticut, Delaware, Florida, Michigan, Missouri, Nebraska, New Hampshire, Oregon, Pennsylvania, Texas, Wisconsin. (For other "diversion" news, see chart, page 116, this issue.)

**ICC BRAKE** study scheduled for this summer (Feb., page 33) will (1) review how well present safety regs prevent runaways, (2) test other emergency brake systems than those prescribed (including axle-by-axle), (3) provide data for possible revision of the emergency brake requirements, and (4) check on operation of emergency brake systems "in general." Advisory committee for the tests has been formed, held its first meeting May 27 and 28 at the Interstate Commerce Commission in Washington, D. C. It considered a tentative outline of what testing would be included. First phase is to be laboratory work with mock-ups.

**TRAILER INTERCHANGE** will double in the next five years with some 40 per cent of trailers being interchanged. This prediction was made by R. R. Smith, chairman of ATA's Regular Common Carrier Conference trailer interchange committee, at last month's meeting of the Accounting and Finance Council of ATA in Rochester, N. Y. One obstacle, says Smith, is that about 54 per cent of the trailers now interchanged must be rewired when they change hands. He asks for wider adoption of the ATA recommended 7-way connector. Similar discussion arose at a St. Louis, Mo., regional meeting of the Regular Common Carrier Conference. It recommended (1) that trailer makers wire new equipment according to the ATA Wiring Code, (2) that carriers keep wiring in compliance with the Code, and (3) that carriers provide a spare tire rack on interchanged trailers. These proposals were considered further at the RCC equipment committee's May meeting in San Francisco, Cal.

**ROAD CHECK** by ICC safety men and local officials at Florida state boundary resulted in 294 vehicles being declared "out of service" and 107 carriers under investigation for possible enforcement action. At the ATA Council of Safety Supervisors meeting in Dallas, Texas, last month, ICC Commissioner Tuggle warned that for-hire carriers who are persistent violators of the safety regs might be faced with an order "revoking or suspending" their operating rights. A way should be found, he continued, to bring similar pressure to bear upon private and exempt carriers who are also persistent offenders.

# DETROIT DISPATCH

**TIRE FAILURE AND** electrical trouble account for 60 per cent of passenger car road failure, says American Automobile Assn. Actual breakdown, based on almost 53½ million service calls in 1956, lists tires at 24 per cent, battery and electrical at 23, ignition at 12 and lights at 1.

**REEFER RATINGS FOR** trailers will be reported to manufacturers for engineering purposes only. This was the latest word from Washington where Bureau of Standards and Dept. of Agriculture expect to get rating tests under way before the end of this month. So-called "deep sink" testing method will be used to measure heat loss. Rating tests will be followed by about 10 days of road testing. Truck-Trailer Manufacturers Assn. is helping pay the costs.

**NEW ENGINE IS** being readied by one of the "Big Three" truck builders for use in 1958, heavy duty models. It will be offered with built-in governor designed to operate off the output side of the transmission. Thus it will con-

trol drive shaft rather than engine speed.

**CENTERLINE** steering using front axle designed by Transportation Engineering Co. (July '56, page 110) is offered as a customer-option by Mack and International. GMC plans to offer it as an option on its 30,000 lb GVW and up models.

**TIRE PRICES ARE** expected to go up this summer, at least five per cent it is reported. Reason is the expected wage boost at major rubber companies.

**TRUCK PRICES MIGHT** go up because of higher steel price. However, indications are such increases will not be made until 1958 models come out rather than in July when steel price is expected to go up.

**WILLYS' FORWARD** control, 5000 lb GVW truck (Dec. '56, page 82), the FC-150 will have a big brother some time next month. It will be the Model No. FC-170, with 7000 lb GVW rating.

# WASHINGTON WATCH

**CONGRESS**, at press time, was largely tied-up with the battle of the budget. Most legislation was entangled in hearings or behind-the-scenes politics. Observers say once the budget is settled, the legislative log jam will break, definite action will be taken and Congress can go home—maybe as early as late July. In the meantime . . .

**TRANSPORTATION TAX** might be up for repeal. Report from American Trucking Assns. says there's a good chance for partial reduction this year, total repeal next year. It hinges on whether or not such provision is made in the pending Tax Bill. If it is, the outlook is optimistic. If it isn't, not much can be done before 1958.

**PRIVATE CARRIERS** won two rounds in their fight against being required to register with the ICC. The Senate Interstate Commerce Committee voted last month to "postpone indefinitely" consideration of S1490 covering private carrier registration. In the House, the companion bill H5664 was "passed

over" by the House Interstate Commerce Committee. However, action on this bill or on S1677 and H5825 (redefining private carriers) or S1384 and H5123 (making all carriers "for-hire" when hauling for compensation) could come at any time.

**BOTH ATA AND** the National Assn. of Motorbus Operators have appeared before the Senate's Surface Transportation subcommittee to oppose S1458, which would authorize the ICC to issue "term" operating rights. (For Special report on the dangers of this authority, see page 94, this issue.) Both Associations favor S1460, which permits the ICC to extend temporary authorities.

**CONTRACT CARRIERS** may not have to show "inadequacy of common carrier service" in order to obtain addition permits as was originally asked for in S1384, a pending bill redefining the scope of contract carriage. The ICC has asked the Senate Surface Transportation subcommittee to knock out this requirement.

**HIGH-STYLE DODGE** pick-up, the Sweptside 100, is now on the market. It features tail fins adopted from the Dodge passenger car.

**NEW 12-SPEED** transmission is being developed by Dana Corp. for heavy duty trucks.

**LARGE TRUCK ENGINE** will probably be built by Waukesha Motor Co. to test advantages of Miller supercharging system on automotive engines. System's operating cycle employs special means for controlling intake valve action and timing.

**AIR SPRING** department has been opened by General Tire & Rubber Co. Reason is, says General, "The recent decision by the automotive industry to utilize the rubber air springs on their new models . . ."

**DODGE HAS** set-up eight independently-owned truck distribution centers. Special emphasis will be on availability of heavy duty models and parts.

**TRAILER SHIP** freight between the States and Puerto Rico seems to be booming. Late last month, TMT Trailer Ferry switched the trailership "TMT Carib Queen" from Trans-Atlantic service to the Florida-Puerto Rico run to clean-up an "unprecedented backlog" of freight. Almost at the same time, Great Southern Trucking's parent company, Ryder System, Inc., announced formation of Borinquen Steamship Co. and the first sailing of the "SS Ponce" in lift-on, lift-off container service between the same points. Ryder says plans are being studied to include Central and South American ports at a later date.

**LIFT-ON, LIFT-OFF** containers are under Internal Revenue Service scrutiny. Originally, the IRS said they were not subject to the 10 per cent federal automotive excise tax. With expansion in their use (McLean, New York Central Railroad, Ryder, Spector Motor Freight and others), the report is that the decision will be reversed. You can look for a hot court fight if it is.

## TRUCK TONNAGE

**TRUCK FREIGHT** IN March was up 7.5 per cent over February, reports ATA's Research Dept. As compared to March, 1956, tonnage of intercity general freight was down 1.8 per cent in March this year. For the first three months this year, truck freight held close to last year's three month volume—down only a nominal 0.2 per cent. Regions registering gains in March 1957, as compared to March, 1956, were Rocky Mountain—up 5.1 per cent, Southern—up 2.9, Pacific—2.4, Southwestern—2.0, New England—1.2. Biggest drop came in the heavy tonnage Central region—down 5.9 per cent.

Month	% Change from Previous Month	% Change from a Year Ago
March, 1957	+ 7.5	- 1.8
February, 1957	- 7.0	- 2.4
January, 1957	+14.4	+ 3.7
4th Quarter, '56	....	- 0.2
December, 1956	-12.2	- 5.6
November, 1956	-10.2	- 1.4
October, 1956	+15.7	+ 7.9
3rd Quarter, '56	....	+ 0.4
September, 1956	- 6.5	- 6.6
August, 1956	+12.7	+ 1.3
July, 1956	....	+11.2
2nd Quarter	....	+ 5.6
June, 1956	- 0.9	+ 5.6
May, 1956	+ 5.5	+ 6.4
April, 1956	- 5.2	+ 0.9
1st Quarter, '56	....	+ 7.9

## TRUCK AND BUS PRODUCTION

Make	For Weeks Ending			Year to Date	
	May 11	May 4	April 27	1957	1956
Chevrolet	7,274	7,442	6,831	137,586	152,153
G. M. C.	1,114	1,206	1,532	27,140	30,064
Diamond T	127	119	111	1,690	1,858
Divco	80	88	80	1,413	1,640
Dodge and Fargo	1,475	1,776	1,819	32,399	33,375
Ford	7,768	8,212	9,063	134,987	129,301
F. W. D.	20	16	19	411	794
International	2,992	2,697	2,761	38,348	56,101
Mack	324	329	334	6,550	7,049
Reo	95	67	53	1,195	1,390
Studebaker	256	259	214	4,544	6,064
White	323	314	310	6,242	7,310
Willys	1,327	1,137	1,351	23,399	23,412
Other Trucks	85	92	91	1,683	2,409
Total—Trucks	23,206	23,754	24,574	417,547	452,950
Buses	91	116	127	1,625	1,593
Total—Trucks and Buses	23,351	23,870	24,701	419,172	454,543

Source: Automobile Manufacturers Assn.

## IN THIS ISSUE

Kaibab Lumber Co.'s **PM** program for its **OFF-HIGHWAY** and **ON-HIGHWAY** fleets is spotlighted . . . page 66.

Here's how Oregon's lumber fleets are solving both a **SAFETY** and a **PUBLIC RELATIONS** problem . . . page 70. Also, there's a spirited defense of present methods of figuring **ACCIDENT RATES** . . . page 88.

**CONTROL BOARDS** that show exact status day-by-day of work being done are described. On the **MAINTENANCE** side, it's New York Transit's . . . page 72. On the **OPERATIONS** side, it's Denver-Chicago's . . . page 78.

**ROAD FAILURES** get attention with Detroit Edison telling how they can be cut . . . page 74, and a **FLEETMAN'S GUIDE** listing the driver's complaint in one column and the possible cause in another . . . page 82.

# The Road Ahead



**LONG DISTANCE RADIO** for terminal-to-terminal or similar application is being asked for by the trucking industry. Federal Communications Commission opened hearings last month (expected to continue into July) for allocation of "microwave" frequencies—those above 890 megacycles. Scheduled to appear in behalf of fleet operators were Central Freight Lines President R. H. Linam, McLean Trucking Vice President Max Cooke, ATA Managing Director John Lawrence, and G. P. Adair, a consulting engineer.

**TRUCKING INDUSTRY** will be promoted again this summer by Mack Trucks. Arranged in cooperation with the ATA Foundation, Mack will sponsor a series of short features on the weekend radio program "Monitor," carried by some 160 stations across the country. Mack says last year's public response was so favorable that it decided to repeat the two-month, \$40,000 project again this year.

**INTERSTATE HIGHWAY** mileage presently authorized should be finished first before additional mileage is considered says Arthur C. Butler, National Highway Users Conference Director. Speaking at the National Standard Parts Assn. meeting in Boston, Mass., late last month, he pointed out that the Bureau of Public Roads has received requests for 12,000 more miles. "Such an increase," he said, "would raise the cost of completing the System beyond all expectations. . . . Let's get on with the job as approved, and accomplish it before we think of still more miles."

**BUS PASSENGERS** between Denver and Pueblo, Colo., will have a chance to ride in a 60-ft long, articulated, luxury coach. Transcontinental Bus System is putting two of these \$47,000, German-built, 10-wheel vehicles in service. Accordion pleats in the mid-section give them an inside turning radius of under 40 ft. Weight of the 64-passenger coaches is "about the same as a typical 40-ft bus," says Transcontinental. Power plant is a horizontal Cummins diesel engine.

**HIGHWAY BUILDING** needs a public relations program, says Maj. Gen. L. W. Prentiss, American Road Builders Assn. executive vice president. The program "is not going to get off dead center unless a selling job is done to overcome local opposition to highway location," he adds. As part of its program to accomplish this goal, ARBA has in the works a "dramatic, educational" motion picture.

**FIRST QUARTER** production totals for 1957, as shown in the chart below, confirm earlier reports of a slight drop-off as compared to first quarter 1956. One reason advanced: Heavy truck sales for highway building haven't as yet materialized, are expected as actual construction expands this summer.

In thousands of units, except bus sales are in actual numbers	New Truck Registrations		Truck Factory Sales—Domestic		Truck Trailer Shipments		Bus Factory Sales—Domestic		Truck and Bus Tires				
									Replacement Shipments		Original Equip. Shipments		Inventory End of March
	March	3 Months	March	3 Months	March	3 Months	March	3 Months	March	3 Months	March	3 Months	
1957	74.7	183.8	73.5	220.4	5.4	15.8	307	798	704.2	1979.2	329.6	977.8	3678.1
1956	77.2	208.8	67.0	254.5	6.5	16.1	405	921	662.0	1856.3	439.0	1306.7	3465.3





American Seating Company, world's largest seating supplier, has furnished seats for every Major League Stadium, United States Senate and House of Representatives, New York Metropolitan Opera House, Radio City Music Hall and the Indianapolis "500" Speedway.



**"Our  
full-sized  
seat samples**

## **TRAVEL FAR AND WIDE IN FORD WAGONS!"**

Says Mr. W. K. FRIEND, *Fleet Manager,*  
American Seating Company, Grand Rapids, Mich.

"Transporting big, heavy sample selections of theatre stadium, auditorium, church or school furniture all over the country, our salesmen need lots of space and lots of power. Ford has plenty of both. The V-8 power and king-sized loadspace in Ford Station Wagons rate "tops" with our salesmen. Our men vote for the car they prefer from the low-price three—and Ford Station Wagons are always big favorites."

Whether your salesmen carry opera seats or diamonds, whether they travel highways to cities or corduroy roads to mining camps, there's a Ford car or station wagon that's just right for their needs.

With the new kind of '57 Ford, you get all the advantages of the revolutionary "Inner Ford" with its new smooth-riding chassis, new solid-built body, and

new comfort-tailored interiors. And there's a choice of powerful, gas-stretching Six or V-8 engines to match your every requirement.

What's more, you'll get big savings with Ford . . . savings that start with the low initial cost . . . savings that continue with economical operation and maintenance . . . and additional savings from Ford's high trade-in value.

See your Ford Dealer today for the best possible deal for your salesmen, their samples, and your savings.



The Ford 6-Passenger  
Country Sedan, big favorite  
with American Seating Co.

## **FORD FLEETS ARE LOW COST FLEETS**

"Our tire 'pick-ups' could st



Buy and Specify

**GOODYEAR**

MORE TONS ARE HAULED ON GOODYEAR TRUCK TIRES THAN ON ANY

**R**

OTHE

Co

# stock a junk yard— but Goodyear Tubeless Tires cut road delays to 1 in 310,000 miles!"

## Yellow Transit Lines go TUBELESS on triple-tempered TRIPLE-TOUGH 3-T Cord

"Our runs are tough enough on tires—without our going into the hardware business!"

"But in the 8 Midwest and Southwest states we serve, there are plenty of jinx-loops where 4 or 5 'hardware' pick-ups per run are par for the course. We even collect weirdies like big stove bolts and complete screw drivers!" continues Yellow Transit Vice President William R. Riley.

"Back in our tube-type tire days, any of those could mean a flat or blowout en route—but since Goodyear TUBELESS tires, we average 310,000 fleet miles before any road delay!"

"You see, NOW there's no tube to blow when hardware works through a tire. Goodyear TUBELESS tires usually hold most of this junk *without air-loss*—right to the end of the run. Then we often repair right in our own shop.

"But that's just one advantage. We

found so many others, ALL our 465 vehicles have gone TUBELESS.

"For instance, Goodyear TUBELESS tires run cooler—and that saves plenty of headaches on runs like our Baxter Springs-Dallas.

"What's more, we save 15 pounds per wheel—or 210 pounds each 14-wheeler. We have 220 of those—so there's 23 EXTRA PAY-LOAD TONS every fleet trip!"

"Air retention? *Better* than tube-type! Instead of 100% gauge-check at every truck dispatch, we need only central-point checking—save 2,000 man-hours a month.

"No tube and flap troubles, either—and mounting's much simpler. In fact, *we handle total tire-maintenance in a third less time*—even with many more wheels on the road."

Want to know more about TUBELESS advantages—when they're built with triple-tempered TRIPLE-TOUGH 3-T Cord? Just contact your Goodyear dealer—or Goodyear, Truck Tire Dept., Akron 16, Ohio.

## MAKES SAFEST TUBELESS TIRES! LICKS THE 3 GREAT TIRE-KILLERS!



Look for this nearby Goodyear  
dealer sign for better tire values—  
better tire care.

OTHER KIND

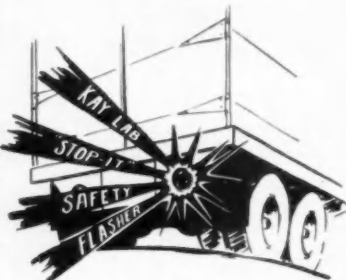
Tubeless or Tube-Type

Unless tire cord is airtight—and with-stands HEAT, SHOCK and FATIGUE—it can't give you full TUBELESS advantages. TRIPLE-TOUGH 3-T CORD is triple-tempered by Goodyear's exclusive "Tension, Temperature and Time" process to make Goodyear Tubeless Truck Tires the world's most practical in every way!

## "KAY LAB"

FOR DEPENDABLE  
QUALITY PRODUCTS

KAY LAB is repeatedly the choice with every City, County and State government requiring flashing lights on emergency vehicles because only Kay Lab has the features specified.



### "STOP-IT" SAFETY FLASHER

Finest flasher made. Makes lights flash on-and-off. Used for flashing warning signals and directional signals. Available in 4 types. Will flash any auto lamp to 64 candlepower, 5 amperes, standard ratings 6 or 12 Volts.



### ALTERNATING FLASHER

HEAVY DUTY. Meets requirements of State Laws for alternating flashing signals. Up to 15 amperes, 6 or 12 Volts. No parts to wear out; requires no lubrication, no upkeep. Operates magnetically. Good for lights or horn signals.

Write for Folders, prices and name of nearest Jobber

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**MEYERCORD**  
**Decal Truck Signs**  
FLEET OWNERS' FIRST CHOICE

**Advertise  
Your Business  
On Your Own  
"Moving  
Billboards!"**



Meyercord Decal Truck Signs make sure each vehicle boosts your business every mile of the way. Easy-to-apply Meyercord Decal Truck Signs have helped turn thousands of fleet trucks into effective, permanent "moving billboards" for their owners. Whether you need lifelike full color product reproductions or simple characteristic lettering, Meyercord meets your exact design and color specifications. Meyercord Decal Truck signs offer absolute uniformity and application speed which virtually eliminates lay-up time. The Meyercord "Ads on Wheels" full color brochure is yours free upon request. Let us explain the cost-saving, time-gaining advantages of permanent Meyercord Decal Truck Signs . . . just write us on your letterhead today.

**THE MEYERCORD CO.**  
*World's Largest Decalomania Manufacturers*

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CHICAGO 44, ILLINOIS

# DATES and DOINGS

## JUNE

- 18-20--National Freight Claim Council, American Trucking Assns., Annual Meeting, Hotel Wisconsin, Milwaukee, Wis.
- 19-20--Executive Committee, American Trucking Assns., ATA Bldg., Washington, D. C.
- 21-22--Pennsylvania Motor Truck Assn., Annual Meeting, Hotel Roosevelt, Pittsburgh, Pa.

## JULY

- 12-13--Motor Transportation Assn. of South Carolina, Annual Meeting, Hotel Bon Air, Augusta, Ga.
- 15-17--Truck Trailer Manufacturers Assn., Summer Meeting, Homestead Hotel, Hot Springs, Va.
- 18-19--State Truck Association Managers, Annual Conference, King's Gateway Lodge, Land O'Lakes, Wis.

## AUGUST

- 12-15--Society of Automotive Engineers, West Coast Meeting, Olympic Hotel, Seattle, Wash.
- 19-20--North Dakota Motor Carriers Assn., Annual Meeting, Hotel Clarence-Park, Minot, N. D.
- 20-22--Industrial Relations Dept., American Trucking Assns., Annual Forum on Trucking Industrial Relations, Hotel Statler, Detroit, Mich.
- 31-Sept. 2--Mississippi Transport Assn., Annual Meeting, Hotel Buena Vista, Biloxi, Miss.

## SEPTEMBER

- 11-13--Michigan Trucking Assn., Annual Meeting, Hotel Sheraton-Cadillac, Detroit, Mich.
- 12--Motor Truck Assn. of Connecticut, Annual Convention, Hotel Statler, Hartford, Conn.
- 12-14--Indiana Motor Truck Assn., Annual Meeting, French Lick Springs Hotel, French Lick, Ind.
- 17-18--Central Motor Freight Assn., Annual Convention, Conrad Hilton Hotel, Chicago, Ill.
- 18-20--National Assn. of Motorbus Operators, Annual Convention, Drake Hotel, Chicago, Ill.
- 19-20--Tennessee Motor Transport Assn., Annual Meeting, Andrew Johnson Hotel, Knoxville, Tenn.
- 19-21--Pennsylvania Motor Truck Assn., Fall Meeting, Bedford Springs Hotel, Bedford, Pa.
- 20-22--Virginia Highway Users Assn., Annual Meeting, The Cavalier Hotel, Virginia Beach, Va.
- 22-26--American Transit Assn., Annual Meeting, Sheraton-Mt. Royal Hotel, Montreal, Quebec, Canada.
- 26-27--Kansas Motor Carriers Assn., Annual Convention, Hotel Broadview, Wichita, Kan.
- 27--Iowa Motor Truck Assn., Annual Meeting, Savary Hotel, Des Moines, Iowa.

## OCTOBER

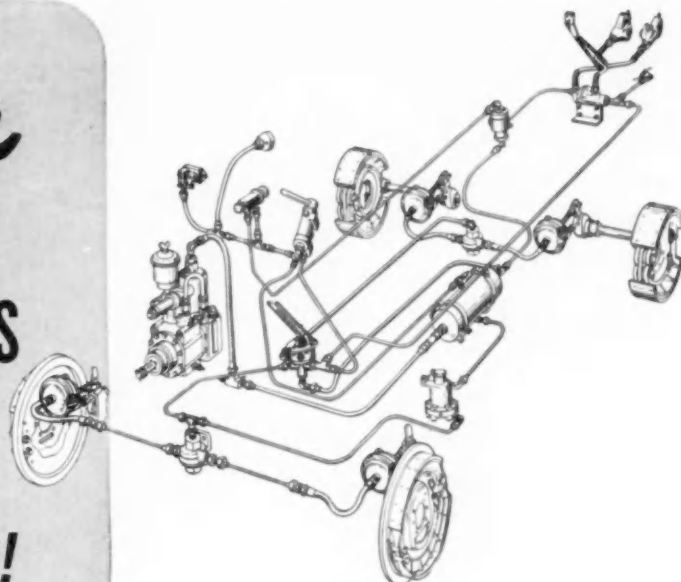
- 2-8--Regular Common Carrier Conference, American Trucking Assns., Annual Membership Meeting, Conrad Hilton Hotel, Chicago, Ill.
- 6-9--Executive Committee, American Trucking Assns., Conrad Hilton Hotel, Chicago, Ill.
- 6-11--American Trucking Assns., Annual Convention, Conrad Hilton Hotel, Chicago, Ill.
- 14-16--Truck Body and Equipment Assn., Annual Meeting, Atlanta-Biltmore Hotel, Atlanta, Ga.



# Wagner

## STRAIGHT AIR BRAKE SYSTEMS

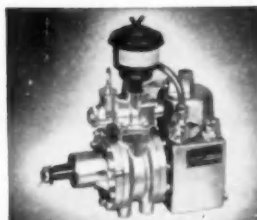
*provide safe,  
sure stops for  
cam type brakes!*



Wagner Straight-Air Brake actuating systems give cam type foundation brakes the ability to make quick, safe stops—completely controlled by the driver. They are furnished plenty of air at all times by the Wagner Rotary Air Compressor. The actuating units and application valves are *positive* in operation—performance-proved on many thousands of installations.

Wagner Air Brakes are the product of more than thirty years of brake engineering experience—gained in the manufacture of brake systems and brake parts for the automotive industry. This is your assurance that when you equip your trucks with Wagner Air Brakes you not only reduce brake maintenance costs, but you also add safety to the vehicles you operate.

Get all the facts on the Rotary Compressor and other features that make Wagner Straight-Air Systems so dependable and so safe. Write for your free copy of Catalog KU-201—it gives all the facts you should know about Wagner Air Brake Systems. And remember, when ordering new equipment, be sure to specify Wagner Air Brakes.



### features include:

**WAGNER ROTARY AIR COMPRESSOR**—provides an abundance of air at all times. Its cool operation prevents carbon formation in air lines. Uniform torque load and smooth operation with moderate stresses assure long compressor life and long belt life.



**WAGNER BRAKE CHAMBERS**—have diaphragms of neoprene rubber bonded to high-tensile-strength nylon fabric for superior oil resistance and maximum strength and flexibility. Available with or without push-rod seal. All brake chamber parts are of corrosion-resistant material, or are plated to prevent rusting. Wagner Brake Chambers are interchangeable with all clamp type and bolt type units equipped with standard mounting studs, regardless of make.



**WAGNER MOISTURE EJECTION VALVE**—automatically keeps air reservoirs clean and dry by ejecting accumulated moisture with each average brake application—without causing a noticeable drop in tank pressure.

K57-6



### Wagner Electric Corporation

6470 PLYMOUTH AVENUE, ST. LOUIS 14, MO., U.S.A.  
(Branches in principal cities in U.S. and in Canada)

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NoRoL • CoMaX BRAKE LINING • AIR BRAKES • AIR HORNS • TACHOGRAPHS • ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES

Keep your fleet  
on its feet!



## 30 million miles of solid proof—GENUINE

*"We really pour it on our 81 Ford trucks with all kinds of heavy construction, from quarrying to road building!"*

*says Buck Alford, Truck Foreman, Nello L. Teer Co. "That's why we use Genuine Ford parts. Ford parts helped us rack up 3 million miles last year—over 30 million miles in 25 years!"*





## FORD PARTS keep this fleet on the job!

Whether you operate one Ford truck or hundreds, you want your fleet to keep delivering the same high performance that Ford engineers built into it. What better way to keep Ford fleets on their feet than with Genuine Ford Parts?

The specifications for Ford parts are drawn up by the same engineers who designed your Fords. And in addition to meeting Ford's rigid

standards, Genuine Ford Parts must pass rugged track and laboratory tests. So you know Genuine Ford Parts are made right, to fit right, to last longer!

To reduce "downtime," specify Genuine Ford Parts. They cost no more, and save you money in the long run. They're available through Ford Dealers everywhere.



# Fleetman's

# LIBRARY

FOR FREE ITEMS INCLUDED IN THIS REVIEW OF CURRENT MAINTENANCE AND SAFETY PUBLICATIONS, USE READER SERVICE POSTCARD ON PAGE 246

## Fleet Control Outline

This new booklet from the Assn. of Casualty and Surety Companies outlines in 24 fact-crammed pages the essentials of controlling fleet operation. Titled, "A Control Program for Motor Vehicle Fleets," the Association prepared it for use as a handbook in the fleet supervisor courses promoted by the National Committee for Motor Fleet Supervisor Training.

In brief, it outlines what must be done for successful fleet operation in respect to—

- Driver selection, training, supervision.
- Equipment selection, dispatching, maintenance.

But the outline presented is a comprehensive one that will serve as an excellent guide in fleet management. Copies are available from insurance company members of the Association or by sending 20¢ to Assn. of Casualty and Surety Companies, 60 John St., New York 38, N. Y.

## Trailer PM Program

Berg Mfg. and Sales Co. is offering free copies of Truck-Trailer Manufacturers Assn.'s "Manual of Recommended Trailer Preventive Maintenance Practices" reviewed in the April issue, page 50.

To get a copy, circle L 1 on the postcard page 246.

## Driver Training Book

"How to Drive," just published by American Automobile Assn., is a 122-page manual for adult driver training. It is a thorough presentation on (1) driver fitness, (2) driving maneuvers, (3) mechanics of vehicle operation, (4) driving laws and regulations, (5) driving courtesy.

While the manual is aimed at teaching passenger car driving, it applies with equal value to truck and bus operation. There may be a few more things to keep in mind in the operation of these heavier vehicles, but the instruction given here covers a good 80 per cent of what there is to know about basic driving.

The manual, in addition to providing subject material, will suggest how a fleet safety man might organize his own driver training program. Copies are \$1 each—nominal for such an excellent book. To order copies, write American Automobile Assn., 1712 G St., N.W., Washington 6, D. C.

## Traffic Accident Data

Here's the street and highway accident picture for 1956 as compared to the way things totalled-up in 1955. It's the annual summary published by The Travelers Insurance Companies. This year it is called "Heedless Horsepower."

Here are the facts on types of accidents, driver action leading to accidents, ages of drivers in accidents, operating experience and sex of drivers in accidents.

Also there are separate tables on vehicles, weather, road conditions at time of accident, as well as days and hours of accident occurrence. You'll be interested in the fact that commercial vehicles, buses and taxis have all improved in safety in relation to other types of vehicles.

For your free copy, circle L 2 on the postcard on page 246.

## Diesel Troubleshooting Chart

Cummins Engine Co. has available a handy, quick reference chart for spotting the cause of diesel engine troubles. Across the top are 26 common complaints—engine misses, surging at governed rpm, engine vibration, lube oil too hot, etc. Down the side are 64 possible causes. Big, black dots on the chart connect the common complaint with its possible causes. Causes are grouped by major subject—air system, fuel system, lubricating system, cooling system, operation and maintenance practices, mechanical adjustments or repair.

If you use diesel power, you'll want to get your free copy by circling L 3 on the postcard on page 246.

## Truck Driver Manual

White Motor Co. has just completed a thorough revision of its "Driver Manual" for truck operation. Its emphasis is on driving the big rigs, but it covers city pick-up and delivery too. Sources include tips from successful truck drivers, a nationwide study of drivers' problems and their solutions.

The manual covers truck starting, take-off, road practices, parking and care. For a copy, send \$1.25 to Sales Promotion Dept., The White Motor Co., Cleveland 1, Ohio. (FOR RECENT MANUFACTURER'S LITERATURE, SEE PAGE 242)



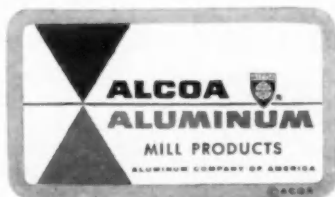


**10,000,000 miles  
a year . . . and they're  
all profitable for  
Western Express**

"Frankly," says President John W. DeVenne of Cleveland's Western Express Company, "we didn't know much about aluminum when we bought our first ten vans, back in 1946. But we do now and, as a result, all but six of our 276 trailers are aluminum. It's the extra payload that counts most. When we cut a pound off dead weight, we add a pound of cargo worth a dollar a year in revenue. Besides, we save on maintenance; no \$150 paint job every third year and no rusting out at the floor level. We're piling up proof at the rate of 10,318,000 miles a year that aluminum vans mean more profit."



## **Alcoa Aluminum Makes the Big Difference**



Your Guide to the Best in Aluminum Value

Equipment for Western Express routes serving 170 cities between Boston and Toledo is built by Trailmobile with Alcoa® Aluminum alloys. They're light and the resultant weight savings add up to 2,000 pounds of extra payload per van. They defy corrosion without protective painting to hold maintenance costs at a minimum. All the facts are presented in *The Road to Payload Profits*; for your free copy, write: Aluminum Company of America, 1876-F Alcoa Building, Pittsburgh 19, Pennsylvania.



**THE ALCOA HOUR**  
TELEVISION'S FINEST LIVE DRAMA  
ALTERNATE SUNDAY EVENINGS

# 4 reasons why your fleet should



## 1. EXCLUSIVE TECHNICAL HELP

Your Champion sales representative is technically trained to help and advise you. He is backed up by a team of Champion Field Engineers, who are recognized spark plug and ignition experts. They, in turn, are supported by the world's largest engineering and research department devoted exclusively to spark plugs. All of these specialists assure you that with Champion, you'll always get the technical help you may need.



*Dependable 5-Rib*

**CHAMPION**

SPARK PLUGS

CHAMPION SPARK PLUG COMPANY • TOLEDO 1, OHIO

# use new Champion Spark Plugs



## 2. FEWER UNSCHEDULED REMOVALS

New Champions insure fewer unscheduled removals—fewer breakdowns on the road—less downtime in the shop—many more profitable truck hours on the road. For Champion quality control and inspection procedures in all phases of manufacture insure greater product uniformity and more uniformly dependable performance.



## 3. MAXIMUM LIFE

New Champions with the Powerfire electrode really pay off when the going is tough. Fleet records prove new Champions last longer under long haul, heavy duty operations. Actually on an average of 3 times as long—with such specific improvements as 180%, 320%, 350%, 228% over former plug life!



COMMERCIAL CAR JOURNAL, June, 1957

## CHAMPION SERVICE TIPS for Better Truck Performance

### *Let's Separate Fact and Fiction*

**FICTION:** Hot spark plugs give a "hotter" spark.

**FACT:** Terms such as "hot plug" or "cold plug" refer only to the relative operating temperature of their insulator firing ends. A hot running plug has a long insulator nose which tends to retain heat; such a plug will help burn away fouling deposits in a wet engine or under light service conditions. A cold plug has a short insulator nose which dissipates heat quickly; cold running plugs are used to avoid overheating and possible preignition under heavy load, high speed operation.

**FICTION:** Abrasive cleaning of spark plugs removes the protective glaze.

**FACT:** When properly done, abrasive cleaning removes only deposits and will not harm the plug. Glaze hasn't been used on the firing ends of spark plugs since leaded fuels were introduced in the early twenties. Temperature of the firing tip is the main thing which determines how fast deposits build up.

## 4.

### WIDER OPERATING RANGE

For extremes of both over-the-road service and city delivery operation, Champions are built to operate at top efficiency. Exclusive design features insure maximum resistance to fouling at low speed—more protection against overheating at wide-open throttle. Test them and see for yourself how much better performance you get with new Champions.

The country's leading haulers checked  
fleet records topping 250,000 miles per  
truck on their GMC DF860's. Their verdict:

# ***"We know we've got America's No.1 Diesel"***

*In the country's key fleets,  
GMC's new DF860 is breaking records  
for stamina—for low upkeep—  
for road time—for fuel mileage*

## **"Stays out of the shop and on the job"**

**REASON:** Putting out its 190 hp at a lazy-stroking 2,000 rpm, the DF860 never has to strain. Even the hydraulic fan, working only when needed, frees up to 15 hp you add to the easy mastering of top loads. That's why maintenance is mainly *preventive*, repair costs negligible. And equipment life is far longer!

## **"Six hours cut from a 1010-mile run"**

**REASON:** 190 hp *without turbo-charging*, a net torque of 508 foot-pounds, easily swings a 65,000 GCW load away *fast* from every stop, doesn't fade on hills. With either a ten-speed transmission, or a five-speed with two-speed rear axle, you hit peak speeds for all conditions—pronto!







**"Fuel mileage is amazing!"**

**REASON:** The DF860's Super E engine has four exhaust valves per cylinder for the cleanest "breathing" known. Bigger inlets pack in more air. New 60-mm injectors tornado in their tiny charges under terrific pressure, blasting the fuel into millions of particles. You get maximum power from a minimum charge!

Take the GMC 860 on all counts. Power—its roadside weight of only 11,750 lbs.—its beautiful balance throughout—its dimensions—its performance—its economy.

*The DF860 is blazing into new fame as the highway headliner!*

Leading fleets know it—and why. The sooner YOU find out, the sooner you'll pick up added profits on every haul. Just call your GMC dealer!

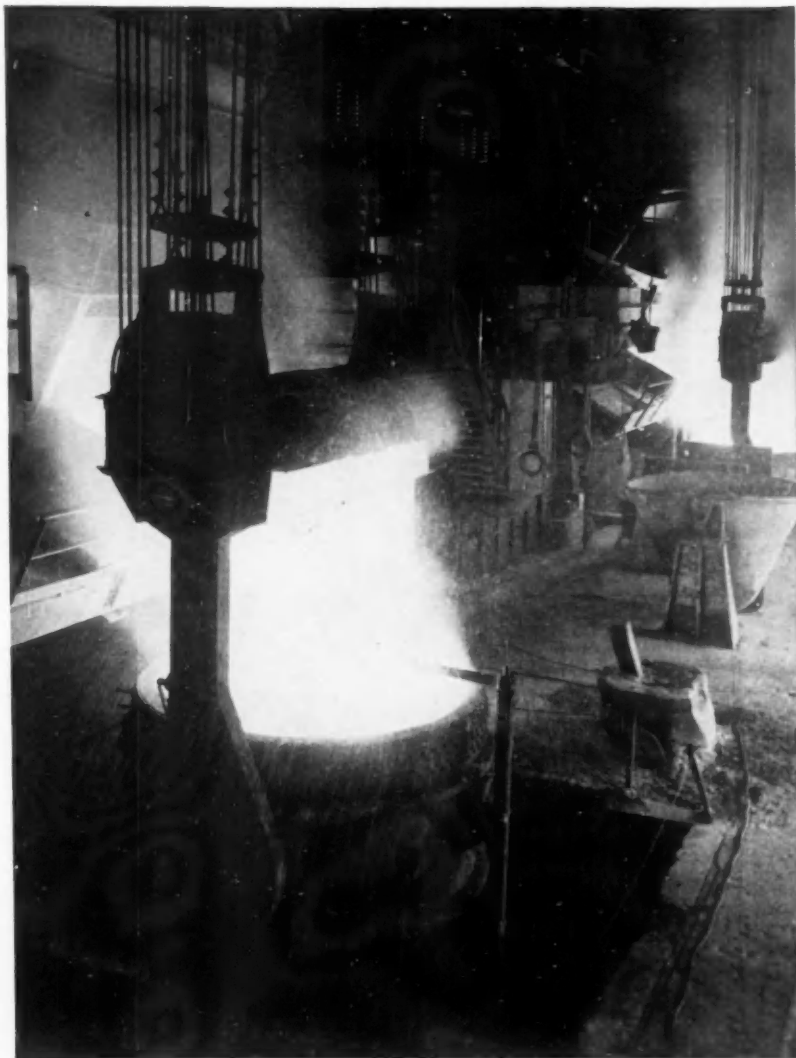
***GMC*** **MONEY-MAKERS**  
from  $\frac{1}{2}$  ton to 45 tons

# 1957 New Truck Registrations

STATE AND MONTH		Brockway	Chevrolet	Diamond T	Dodge	Ford	G.M.C.	International	Mack	Reo	Studebaker	White	Willys Jeep	Willys Truck	All Others	Total
Alabama	Mar.		470	1	50	511	174	135	30	5	5	17	4	4	15	1,421
	3 Mos.		1,555	6	127	1,151	395	358	84	8	10	44	11	24	24	3,795
Arizona	Mar.		248	1	50	290	68	33	8		12	3	4	15	23	755
	3 Mos.		631	3	140	605	222	143	11	1	36	9	11	44	50	1,906
Arkansas	Mar.		529	3	70	492	130	97	11		15	1	1	4	2	1,355
	3 Mos.		1,493	9	201	1,196	395	365	24		43	5	12	17	3	3,765
California	Mar.		2,763	16	448	3,308	545	512	14	14	76	74	65	111	266	8,212
	3 Mos.		7,822	49	1,305	8,021	1,653	1,549	46	62	210	168	158	319	856	22,216
Colorado	Mar.		293	4	42	381	86	103	10	1	8	7	20	49	15	1,071
	3 Mos.		862	13	147	818	274	357	24	9	30	22	48	120	44	2,769
Connecticut	Mar.		124	4	29	133	23	40	16	11	7	16	9	20	16	452
	3 Mos.	2	362	13	103	333	112	187	34	12	19	45	31	69	52	1,377
Delaware	Mar.	5	83	3	15	61	24	26	7		5	12	3	2	3	244
	3 Mos.	3	206	8	52	123	82	65	13	2	6	37	5	8	4	615
District of Columbia	Mar.	4	56		10	57	9	28	4		1	1			7	181
	3 Mos.		197		23	126	28	51	8		16	39	20	65	88	2,640
Florida	Mar.		928	14	120	882	195	212	45	16	61	121	43	177	166	6,438
	3 Mos.	1	2,314	34	319	1,913	511	580	145	43	61	121	43	177	166	6,438
Georgia	Mar.		805	17	90	575	173	210	27	2	14	33	7	14	16	1,783
	3 Mos.		2,079	43	240	1,467	511	576	90	5	46	87	23	30	29	5,226
Idaho	Mar.		167	1	50	164	60	60	1		8	2	3	20	1	537
	3 Mos.		416	2	118	325	149	146	3	1	25	2	20	79	17	1,203
Illinois	Mar.		1,043	34	173	995	228	523	48	11	44	57	10	42	48	3,236
	3 Mos.		2,949	111	484	2,430	752	1,580	115	38	115	173	52	134	159	9,092
Indiana	Mar.		1,561	45	326	1,458	367	802	62	26	127	147	22	58	72	5,093
	3 Mos.		370	13	57	480	76	157	8		9	4	4	15	27	1,200
Iowa	Mar.		1,061	43	181	1,015	286	522	23	1	39	26	7	41	66	3,314
	3 Mos.		432	4	46	444	90	118			19	17	3	8	4	1,185
Kansas	Mar.		1,096	11	118	931	199	305	8		41	44	7	13	10	2,798
	3 Mos.		347	4	51	315	89	111	12	9	16	3	7	13	10	982
Kentucky	Mar.		1,144	4	150	859	326	334	33	11	32	25	27	47	21	3,015
	3 Mos.		803	5	61	653	132	158	15		8	11	11	7	13	1,875
Louisiana	Mar.		2,377	17	232	1,740	481	488	42	36	38	31	32	35	26	5,473
	3 Mos.		60	2	23	92	36	80	5		5	1	7	22	2	335
Maine	Mar.	1	222	2	58	204	81	209	30		19	13	42	90	14	868
	3 Mos.	4	206	8	46	199	35	86	28	3	5	4	4	13	3	844
Maryland	Mar.	7	760	10	147	593	151	257	63	11	25	40	9	42	27	2,152
	3 Mos.	7	236	4	72	233	71	184	13	1	11	34	15	32	42	1,012
Massachusetts	Mar.	6	652	10	165	723	174	401	39	6	18	81	57	138	100	2,600
	3 Mos.		934	14	216	1,008	221	163	28	12	16	28	15	34	59	2,748
Michigan	Mar.		2,804	38	564	2,206	570	485	61	26	50	66	38	124	150	7,182
	3 Mos.		386	4	72	506	63	157	3	3	17	15	1	16	18	1,261
Minnesota	Mar.		1,109	16	229	1,075	206	515	6	9	55	24	14	49	47	3,354
	3 Mos.		456	2	33	422	114	158	7		10	2	1	9	2	2,126
Mississippi	Mar.		1,274	3	125	1,019	295	407	18		27	7	5	19	6	3,205
	3 Mos.		810	9	91	710	176	197	13		18	41	7	7	13	2,092
Missouri	Mar.		2,306	14	247	1,663	550	616	28	9	57	118	13	24	57	5,702
	3 Mos.		203	4	44	171	51	87	2		9	6	10	42	8	633
Montana	Mar.		454	1	91	341	136	247	9		32	15	29	118	22	1,495
	3 Mos.		670	5	14	193	55	71	9		4	11	2	6	3	597
Nebraska	Mar.		231	5	76	546	172	335	18	2	16	37	16	25	22	1,960
	3 Mos.		130	1	12	110	21	18	2		7	1	3	10	5	319
Nevada	Mar.		386	2	39	229	86	43	3	1	32	1	14	36	18	890
	3 Mos.		20		5	22	10	14	2		1	1	2	6	12	344
New Hampshire	Mar.	1	691	14	199	554	226	199	82	12	11	77	7	28	46	2,160
	3 Mos.	2	81	2	44	60	30	50	9		7	2	11	36	12	344
New Jersey	Mar.	14	1,721	43	471	1,258	508	557	196	18	32	194	32	88	160	5,311
	3 Mos.	33	171		21	86	41	41			12	1	7	13		384
New Mexico	Mar.		889		57	298	167	145	10	10	17	6	15	44	5	1,663
	3 Mos.		1,134	22	437	765	347	687	191	47	29	120	60	166	152	4,181
New York	Mar.	24	2,500	50	927	1,445	749	1,398	260	91	67	261	175	393	380	8,735
	3 Mos.	59	1,059	3	65	692	101	147	72	1	17	30	5	13	13	2,218
North Carolina	Mar.		2,190	18	249	1,648	465	510	262	7	47	108	21	44	33	5,602
	3 Mos.		121	16	143	22	55				4	1	3	4	2	367
North Dakota	Mar.		298		58	338	77	214			13	1	3	14	6	1,022
	3 Mos.		1,043	15	277	1,384	245	390	55	16	45	122	30	91	91	3,805
Ohio	Mar.	1	2,677	30	684	2,739	607	1,107	217	47	89	263	69	225	179	8,934
	3 Mos.	1	694		58	700	139	169	14	6	13	37	4	13	19	1,866
Oklahoma	Mar.		1,280	108	1,031	249	366	23	13	21	62	9	20	28	3,210	
	3 Mos.		547	4	125	402	143	182	6	6	60	48	24	75	87	1,699
Oregon	Mar.		1,141	8	202	887	314	447	13	13	67	88	42	177	230	3,629
	3 Mos.		752	22	252	981	168	445	111	10	44	83	28	88	26	3,029
Pennsylvania	Mar.	17	2,275	41	699	2,177	541	1,112	303	35	107	193	111	335	77	8,041
	3 Mos.	35	51		5	30	13	23	3		1	1	12	5	18	418
Rhode Island	Mar.		112	5	29	120	28	51	21	5	1	1	1	4	5	626
	3 Mos.		227	3	31	255	40	50	5		9	19	13	20	15	2,107
South Carolina	Mar.		816		108	765	161	151	30		2	9	3	10	2	353
	3 Mos.		132	1	14	113	23	52		1	2	9	1	14	36	8
South Dakota	Mar.		346	4	52	289	96	223		2	9	1	14	36	8	1,062
	3 Mos.		687	4	106	557	167	155	40	1	8	12	5	12	5	1,741
Tennessee	Mar.		1,500	18	218	1,162	369	412	87	5	20	31	6	28	16	3,872
	3 Mos.		2,477	15	244	2,334	327	600	91	3	38	114	19	43	64	6,369
Texas	Mar.		7,212	52	645	5,144	1,096	1,619	268	19	91	397	71	108	113	16,835
	3 Mos.		188	7	38	191	50	43	2		10	3	1	19	13	565
Utah	Mar.		423	10	68	338	109	94	5	3	15	9	4	46	42	1,166
	3 Mos.		34	3	45	15	13				4		16	19	7	161
Vermont	Mar.	1	102	3	29	92	36	45	3	1	9		38	17	31	406
	3 Mos.		474	1	67	447	87	139	32	9	49	115	40	113	44	1,356
Virginia	Mar.		1,357	1	236	1,116	297	410	151	2	24	4	8	47	70</	

Data from R. L. Polk & Co.

# Steel so fine we have to make it ourselves!



*(Another reason why  
TIMKEN® bearings are first choice  
with truck manufacturers)*

**T**HE quality of Timken® tapered roller bearings is rigidly controlled every step of the way. We're so insistent on giving you quality that we even make our own steel—something done by no other American bearing manufacturer. From melt shop to finished product, Timken bearings are made to meet the *very highest standards.*

Only Timken bearings give you all these advantages: 1) special analysis Timken bearing steels; 2) advanced geometrical design, for true rolling motion; 3) precision manufacture; 4) rigidly controlled quality. That's why Timken bearings are first choice with men who know trucks best—truck manufacturers.

The next time it's a question of tapered roller bearing replacement, make sure you get Timken bearings. Look for the trade-mark "TIMKEN" on every bearing. For helpful service information, get the free booklet: "Timken Tapered Roller Bearings—Their Care and Maintenance". Write to: Dept. JCC-6, The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable: "TIMROSCO".

## SINCE THEY'RE BEST WHEN THE TRUCK IS NEW, THEY'RE BEST FOR REPLACEMENT, TOO!



**TIMKEN**  
TRADE-MARK REG. U. S. PAT. OFF.  
**TAPERED ROLLER BEARINGS**

NOT JUST A BALL ○ NOT JUST A ROLLER □ THE TIMKEN TAPERED ROLLER  
BEARING TAKES RADIAL ⊙ AND THRUST — ⊙ — LOADS OR ANY COMBINATION ⊙

# Cal Cartage goes all th



**NEIL J. CURRY**

President states, "AC Spark Plugs do an outstanding job in our fleet at a minimum maintenance cost."



AC SPARK PLUG  THE ELECTRONICS DIVISION



# the way with AC!

**AC Commercial Spark Plugs power transports and pickups  
in 310-unit fleet covering mountain-desert-coastal runs!**



**EARL PARKER**

Shop superintendent says,  
"AC Spark Plugs provide  
good performance and long  
life for real economy."

When the "Call" comes to Cal Cartage, things have to move! This Common Carrier serves Southern California from Santa Barbara to the Mexican border, including parts of the Mojave Desert. Varying altitude, humidity and temperature conditions are encountered daily. The fleet includes straight trucks, tractors and cab-over-engine units that must be road-ready 24 hours a day, 365

days a year to meet those conditions.

No wonder California Cartage Company officials specify AC Commercial Spark Plugs for all of their fleet engines! They have found that AC "Hot Tips" deliver the goods in better performance and greater economy throughout a lifetime of long-haul and stop-and-go driving. Carefully checked records on their three-million-plus yearly mileage prove these facts to their complete satisfaction!

Fleet records in every part of the country repeat this story. You'll find your fleet will benefit from all of the exclusive features of AC Commercial Spark Plugs. Get them from your nearby AC supplier today!



**ACTION**  
starts with



**HOT TIP SPARK PLUGS**

OF GENERAL MOTORS

COMMERCIAL CAR JOURNAL, June, 1957

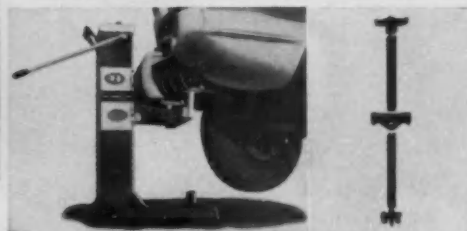
# Only from **BLACKHAWK...** **ALL the jacks**



**BLACKHAWK PORTO-POWER HYDRAULIC BODY JACK EQUIPMENT** cuts reconditioning costs . . . lets you make better bids. Only Porto-Power offers more speed, more ways to push and pull, easier setups!



**SERVICE JACKS** — 1½, 2, 4 and 10-ton for getting under and lifting fast, safe and sure!



**HYDRAULIC ONE-END LIFT** — '57 model Service Chief (1½-ton) handles all '57 cars by bumper bracket or pod. New "Hi-Lift Kit" converts them to high lift jacks.

## for **ALL** the jobs!

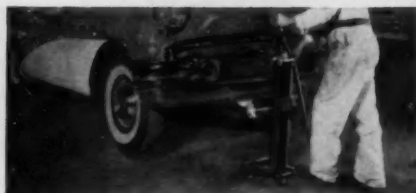
**BEAT THE "FIXED-COSTS" SQUEEZE WITH THE RIGHT JACK FOR EVERY JOB!** Worn-out, time-consuming make-do jacking equipment, plus fixed rates and overhead, rips gaping holes in service profits!

Blackhawk offers you a real solution! Speed-up service, step-up volume and profits with the **RIGHT** Blackhawk jack for every job. Choose efficient, cost-cutting mechanicals or

time-saving hydraulics from the world's *most complete* line! Choose years-ahead, exclusive designs for new car styles, wheels, bumpers.

Handle all body repair work more profitably too! Only Blackhawk Porto-Power hydraulic body jacks give you **ALL** the pumps, **ALL** the rams, **ALL** the attachments for "full-profit" repair of 20 major body sections of **ALL** cars! Don't Delay! See your Blackhawk jobber today!

**ORDER FROM YOUR BLACKHAWK JOBBER NOW!**



**MECHANICAL ONE-END LIFT** — Jeep-Jack features revolutionary air frame design. Weighs just 44 lbs., 1½-ton capacity.



**HAND JACKS** — Meet today's bigger loads, greater lifting spans, broader application. Capacities from 1½ to 100-tons.



**TRANSMISSION JACKS** — Hydraulic T-lifts are the most modern built for transmission service. 2, 5 and 7-ton horses fit all cars, trucks.

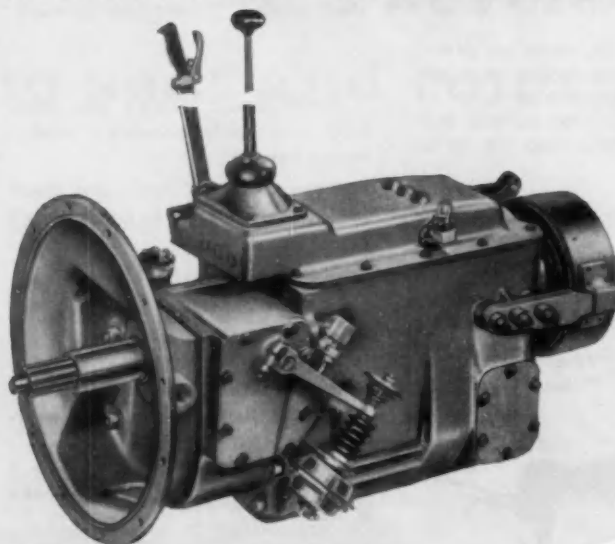
*make your next jack buy a*

# **BLACKHAWK**

BLACKHAWK MFG. CO., Dept. J-1167, Milwaukee 46, Wisconsin



## Ideal for Highway Hauling- **CLARK** STEPMATIC Transmission



Here's happy and profitable news for all operators whose truck equipment takes punishment—Clark's STEPMATIC Transmission. This transmission has proved particularly ideal for long-haul, high-speed operations.

- Ten speeds—splitting ratios in between the normal 5-speed transmission ratios—giving 28% steps to fit every hauling need.

Transmission gears synchronized. Semi-automatic shift for the splitting ratios

- Full control of gear-shifting at all times.
- Spares engine—the right ratio for every grade prevents engine lugging—decreases hauling time and fuel consumption.
- Increases transmission life—reduces shock loads. Less downtime for repairs.

By all means write for full information on this highway-proved achievement of Clark engineering.

**CLARK®  
EQUIPMENT**

TRANSMISSION DIVISION

**CLARK EQUIPMENT COMPANY**

Falahee Road • Jackson 3, Michigan



# Laugh it off!

Fleet Physician: "Now, see here, Sam. You'll just have to cut down on your intake of alcohol or else you won't have a red corpuscle left. You know what a red corpuscle is, don't you?"

Tipsy Fleet Mechanic: "I think itsh a Russian non-commishioned ossifer."

CCJ

Maintenance Mechanic (telephoning): "Say, Mabel, may I come over tonight?"

Female Voice: "Sure, Bill, come on over."

Maintenance Mechanic: "Why, this isn't Bill."

Female Voice: "This isn't Mabel, either. But what the heck, come on over."

CCJ

Cuddlesome Cutie: "Mind if I wear my velvet dress instead of the silk one?"

Truck Dispatcher: "No darling! I'll love you through thick or thin."

CCJ

Fleet Operator: "Please, please, I implore you. You better lock me up. I just hit my wife over the head with a golf club."

Desk Sergeant: "Kill her?"

Fleet Operator: "I don't think so. That's why I want you to lock me up."

CCJ

Motorcycle Cop: "Mister, mister. Your wife fell out of your automobile about four blocks back!"

Freight Terminal Manager: "Thank God! I thought I had suddenly gone deaf."

Pete: "What would you do if somebody left you a million bucks?"

Slim: "Why, man, if somebody left me a million bucks, I wouldn't do nothin'—from then on."

CCJ

Steno May: "Joe was over to my apartment last night. He asked me to wear his fraternity pin. I told him I was sorry but I just couldn't wear it until I knew him better."

Steno Fay: "But you're wearing it now."

Steno May: "Well, he didn't leave right then."

CCJ

Catty Cora: "Oh, where we parked the moon was so bright that you could read a newspaper by it."

Safety Sadie: "What did you do?"

Catty Cora: "We read the newspaper."

CCJ

Catty Cora: "Sadie, Honey, did you hear about the childhood sweethearts who had such fun sliding down the cellar door together, until—

Safety Sadie: "Until what?"

Catty Cora: "Until they started singing 'Love Is a Many-Splintered Thing!'"

CCJ

Diesel Truck Driver: "Hey, Cutie Pie, would ya mind bringin' me some more soup for this bowl?"

Diner Waitress: "Certainly not. You like our soup?"

Diesel Truck Driver: "Hell, no! I'm just tired of watchin' this bug wade around. I want him drowned."

CCJ

Steno Molly: "Don't you know that nice girls shouldn't hold a man's hands?"

Steno Dolly: "Don't you know that nice girls have to hold a man's hands?"

CCJ

Freight Claim Clerk: "Lucille, darling, now that we're going to get married, you should give up your forty-a-week job."

Intended Bride: "Certainly, sweetheart. Of course I will."

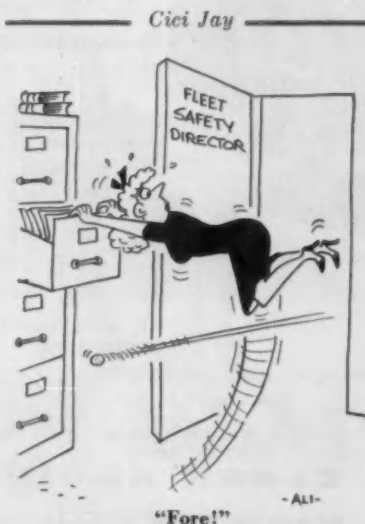
Freight Claim Clerk: "The way I figure it, you're gonna have to make at least fifty."

CCJ

Voice: "Yes. This is the second hand store."

Goofy Greasemonkey: "Well, I want one for my watch."

Resume Work







Beveled Chrome-Vent Rings in Hastings 2C Chrome sets are covered by U. S. Patent Nos. 2148997, 2511874, 2565042, 2712971

## It's beveled like this to seat and control oil...right now!

Where ordinary chrome rings are shaped like a clenched fist, Hastings Chrome-Vent oil rings are beveled—to seat 3 to 4 times faster.

These Hastings oil rings start giving you oil control right now. The patented beveled rail makes immediate fineline contact with any cylinder wall—tapered, out-of-round or re-bored. And because beveled design permits use of a lighter inner-spring, you get a gentle, soft-pressure contact every time. In addition, the thick chrome cap extends *around* the segment, to give at least 3 times greater chrome wearing surface.

Next ring job, install Hastings Beveled Chrome-Vents—the product of replacement specialists. You can be sure of a good job.

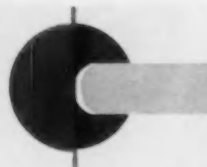
HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN  
Hastings Ltd., Toronto

Piston Rings, Casite, Wear Reducer, Filters, Spark Plugs

**Tough** on oil-pumping  
**Gentle** on cylinder walls

### CONVENTIONAL CHROME RAIL

originated by Hastings...  
now replaced by Hastings  
exclusive Beveled Chrome



## Beveled Chrome-Vent

### BEVELED CHROME RAIL

makes fineline contact with  
cylinder wall for a faster  
seat. Less area to wear-in  
means less time to break-in.



**HASTINGS**  
Beveled Chrome-Vent  
Piston Rings



## **Gets four benefits**

### **by switch to AMOCO\* Lithium Multi-Purpose Grease**

#### *Single grease now does the job in all grease-lubricated bearings serviced by Bergsma Brothers*

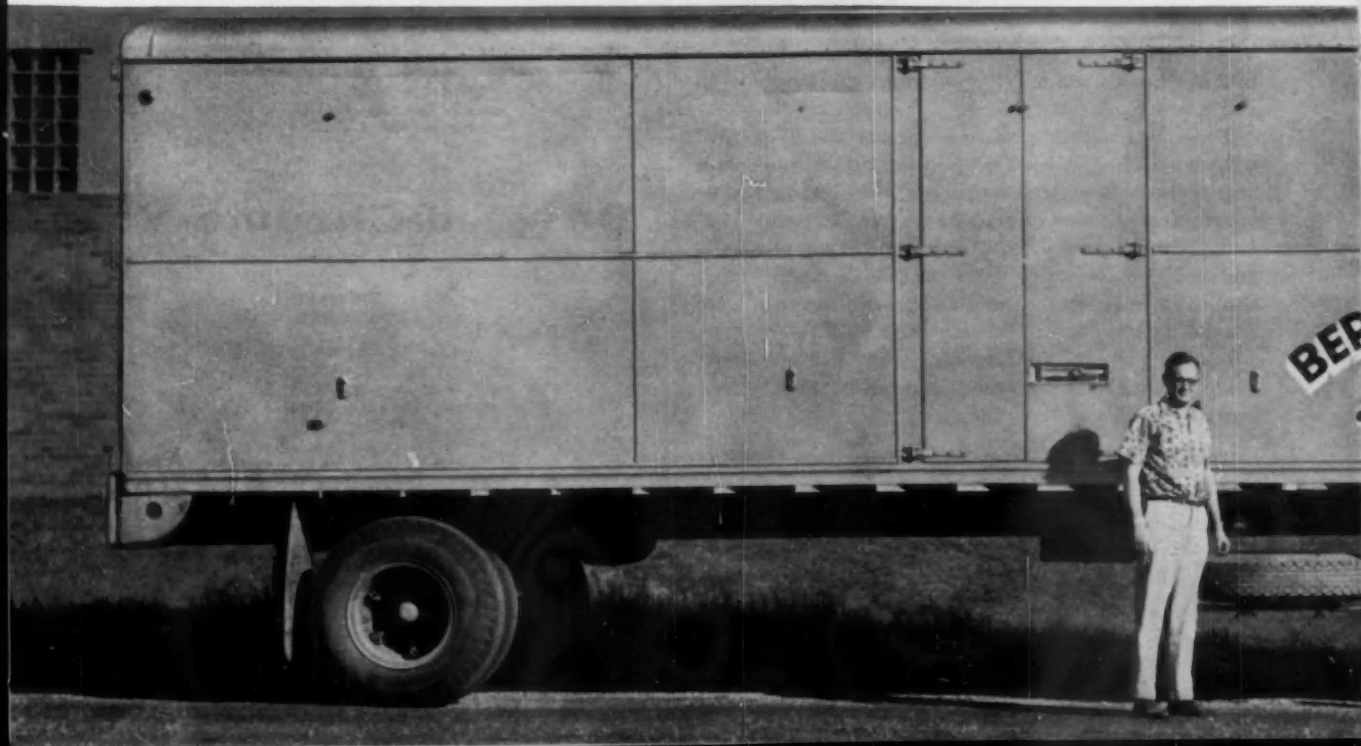
This Grand Rapids, Michigan, furniture manufacturer felt, as many people do, that a fibrous grease was needed for lubricating tractor and trailer wheel-bearings. They stocked a special grease for this purpose.

Standard Oil's Bob Cleland talked over the properties of Amoco Lithium Multi-Purpose Grease with Bergsma maintenance man, D. W. Edsall. It has, Bob explained, special heat and water resistant characteristics. It has the ability to maintain consistency in the severe service encountered in wheel-bearing lubrication. Bergsma Brothers tried it. Wheel-bearing overhaul due to lube failure stopped right then. There hasn't been one since the switch. Tractor wheel-bearings are lubricated every 10,000 miles, trailers every six months. The four benefits:

1. Better lubrication of wheel-bearings.
2. Elimination of a grease, cut inventories, reduced grease handling equipment.
3. Grease waste reduced.
4. Danger of grease misapplication eliminated.

Stake yourself to some savings like this and eliminate lubrication headaches at the same time. Check in with the Standard Oil automotive lubrication specialist that is near you in any of the 15 Midwest and Rocky Mountain states. Or write Standard Oil Company, 910 South Michigan Avenue, Chicago 80, Illinois.

All of Bergsma Brothers fleet now use only one grease for wheel-bearings and ball-bearings which they lubricate.





D. W. Edsall (left), Bergsma Brothers maintenance superintendent, and Bob Cleland, Standard Oil lubrication specialist, discuss performance of AMOCO Lithium Multi-Purpose Grease. Bob is an able man on lubrication technical service. He's been giving this service to customers for five years. To qualify for such work, Bob has a degree in engineering from Michigan State. He has also completed the Standard Oil Company Sales Engineering School.

*Quick facts about*  
**AMOCO\* Lithium Multi-Purpose Grease**

- An all-purpose grease. Used wherever chassis, wheel-bearing or ball-bearing greases are specified.
- Available in two grades. Soft grade for use in extreme low temperature service.
- Available in convenient, sealed cartridges for easy, dirt-free insertion in grease guns.
- Resistant to heat and water.



**STANDARD OIL COMPANY**  
(Indiana)

\*Trade mark Amoco registered U. S. Patent Office by The American Oil Company and used by Standard Oil Company under license.



# CCJ BULLETIN BOARD



## The Highway Handicap

For 25 year olds and up. Purse—total of \$100,000 over future years. Distance—a million miles or more. Obstacle course. No allowance for apprentices. Weather—clear to stormy. Track—straight, smooth and fast to curved, bumpy and dangerous.

### • • • Entries • • •

**Leadfoot Louie**—by Speed Demon out of Patience. Usually breaks fast from gate, cuts loose on straightaway, has trouble on the turns. Last time out was caught by Gendarme, apt to wind-up in photo finish.

**Tailend Hugger**—by Nosey out of Lonesome Gal. Never a leader, but comes close to making a daily double. Extra threatening on a wet track. Can cause the leader trouble in case of a jam up.

**Idiot's Delight**—by Senseless out of Doesn't Care. Unpredictable but should be watched carefully. Likely to swing wide on a turn, stop short, or squeeze by on the inside. Probably will be scratched.

**Swayback**—by Overload out of Terminal. Carrying too much weight to be effective. May break down, over any great distance. Sometimes gets out of control. Can do damage on a breakaway.

**Sensible Sam**—by Courtesy out of Care. **BEST BET AT ANY TIME.** Seldom in trouble, likely to go the distance. Varies speed with weather and track conditions, finishes strong. Always in top condition.



# NEW CASH-STASHER VEHICLE SAFE

*protects drivers and profits  
against holdups and pilfering*



The CASH-STASHER VEHICLE SAFE is cast of shatterproof malleable iron, has strength of over 50,000 pounds per square inch. Bolted to any convenient location in vehicle. Multiple tumbler lock prevents lid from being dislodged with hammer and chisel. One set of keys opens lock for entire fleet, or each Cash-Stasher can be equipped with different locks. The driver has no key to the safe.

**SHATTERPROOF  
TAMPERPROOF  
PILFERPROOF**

**pays for itself!**

**\$39<sup>75</sup>**  
list price

**Discounts on fleet  
and quantity orders**

Now, for the first time, you can protect your route drivers against stickups and strong arm tactics—by equipping your vehicles with the new Cash-Stasher Vehicle Safe.

Crooks just naturally avoid Cash-Stasher equipped vehicles because a decal provided for the side of the truck plainly states "Driver has no key for safe." Your drivers deposit their collections through a convenient slot in the Cash-Stasher . . . keep just enough currency to make change.

This eliminates holdup hazards . . . gives greater driver security . . . reduces insurance rates . . . protects your profits.

**NATIONAL MALLEABLE AND STEEL CASTINGS COMPANY**  
1400 South Laramie, Cicero, Illinois



## **LOST: 3000 dead-weight pounds** **GAINED: Twice the profit per payload!**

**Kaiser Aluminum and Hobbs Trailers develop  
radically new trailer, using new alloys**

"A real breakthrough in the search for lightweight heavy-duty hauling equipment!"

That's what Hobbs Trailers calls this remarkable new all-aluminum platform tandem—developed in cooperation with Kaiser Aluminum, and the first ever produced by a major manufacturer.

Thanks to its aluminum construction, this trailer tips the scales at only 8000 pounds—3000 pounds less than would a similarly rated steel trailer.

With operating costs remaining fixed, this healthy boost in payload capacity permits a profit margin of 15.4%. That's *twice* the 7.7% afforded by steel—a *full 100% profit bonus!*

From floor plates to beam webs, the design of this trailer is radically new . . . made possible by the extensive use of Kaiser Aluminum 5083 and 5086 alloys.

Specially developed to retain their strength after welding, these exclusively patented alloys are non-heat treatable, high magnesium types. For truckers, they promise sure, efficient performance over the long haul.

**This means extra safety**, because aluminum's resiliency and high tensile strength resist fracturing to protect your cargo every mile of the way.

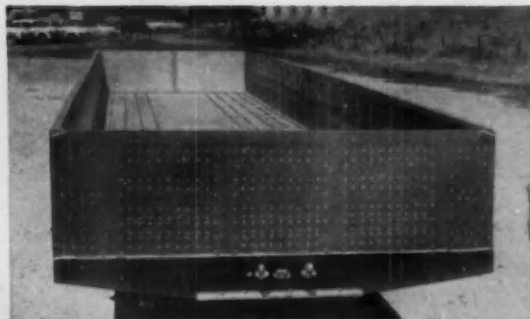
**It means less maintenance**, because aluminum can't rust, rot or warp . . . never needs paint to keep its sleek good looks.



**Sleek, strong and serviceable**, this 35-ft. aluminum workhorse was custom built to carry heavy machinery and pipe for Western Pump Distributors, Lubbock, Texas.



**Double web, box girder construction** brings exceptional strength and stiffness to forward transition section where beam webs decrease in height.



**Sturdy removable side panels**, like all trailer's components, are aluminum. Full length center floor plate (3 ft. wide, 1/2 in. thick) forms integral part of frame.

**It means money saved**, because aluminum's light weight takes the load off gas, oil and tire costs on empty runs.

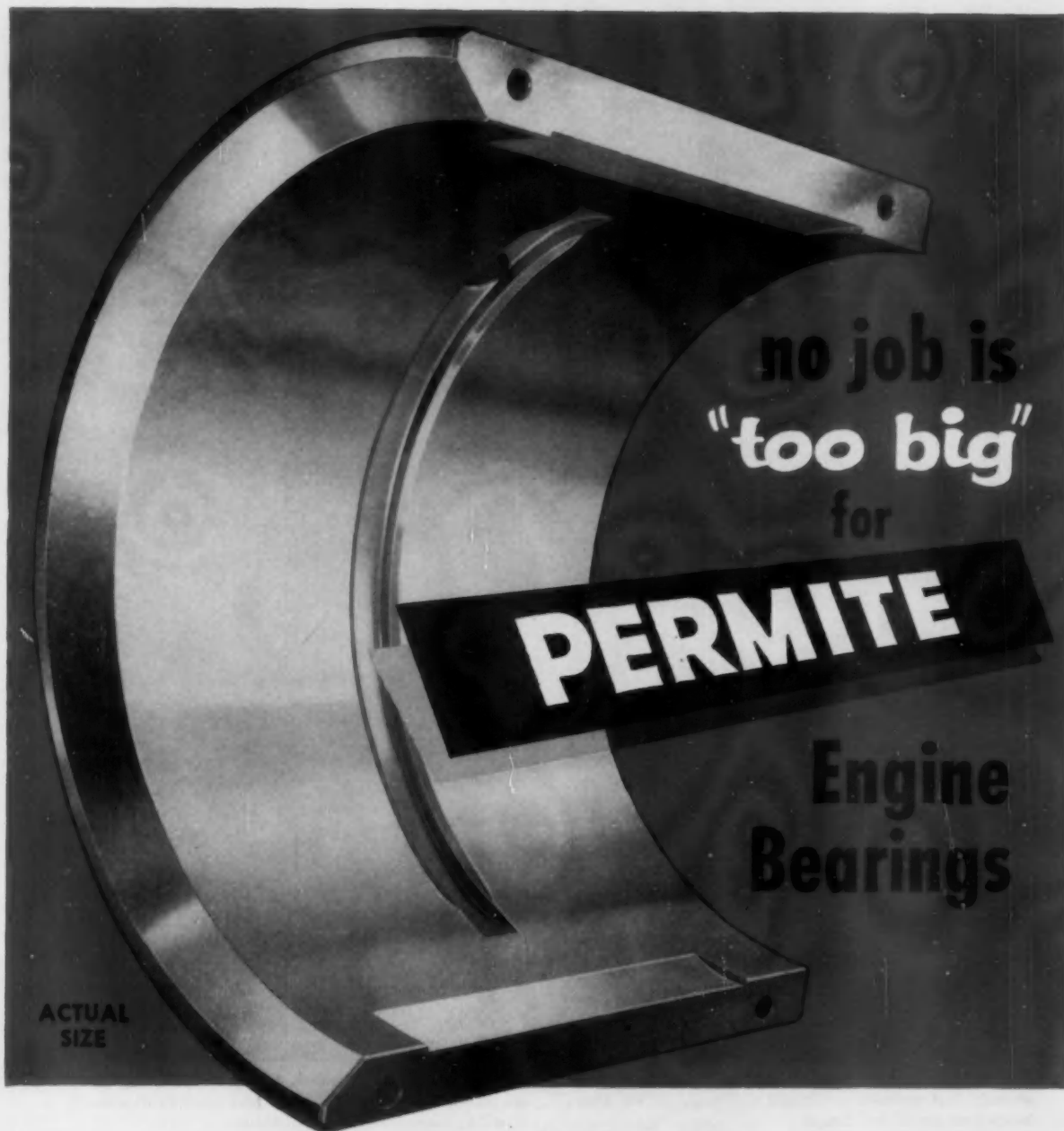
**No matter what your trucking problem**, our engineers will gladly work with you to develop a design which will help lower your costs . . . increase your profits! *For im-*

*mediate service*, call the Kaiser Aluminum sales office listed in your telephone directory. **Kaiser Aluminum and Chemical Sales, Inc., General Sales Office**, Palmolive Building, Chicago 11, Illinois; **Executive Office**, Kaiser Building, Oakland 12, California.



# Kaiser Aluminum

**the bright star of metals**



no job is  
"too big"  
for

**PERMITE**

**Engine  
Bearings**

ACTUAL  
SIZE

VALVES  
VALVE GUIDES  
VALVE PARTS  
PISTONS  
PISTON PINS  
PIN BUSHINGS  
CYLINDER SLEEVES  
SLEEVE ASSEMBLIES  
ENGINE BEARINGS  
WATER PUMPS  
BALL JOINT SUSPENSION  
KING BOLT SETS  
TIE-ROD ENDS  
SUSPENSION PARTS  
SPRING SHACKLES

You seldom need a bearing the size of this giant Permited main bearing. But whether the job is large or small, you always have the right bearings—right in size and quality—when you order from the complete line of PERMITE Engine Bearings . . . the same rugged bearings

that have won overwhelming approval as original equipment.

For prompt service on engine bearings and other Permited Original Equipment Parts, order from your nearby Permited Distributor.



ALUMINUM INDUSTRIES INC., Cincinnati 11, Ohio

original equipment

**Permited parts**

the complete engine and chassis line



# FOR TRAILER BODY CONSTRUCTION AND REPAIR

**LINER FASTENING...**

**NEW!**  
**PLY-HEAD\* DRIVE RIVETS**  
hold plywood liner to frame  
\*The trade name PLY-HEAD is the property of South Chester Corporation

**OUTER SKIN FASTENING...**

**SOUTHCO DRIVE RIVETS**  
hold outside metal sheet to frame

## FAST APPLICATION AND TIGHT GRIP

Original equipment and replacement costs are reduced with Southco Blind Drive Rivets and "PLY-HEAD" Rivets. Application is speeded and high loading pressures are obtained. Built-in "pull-up" action automatically assures uniformly tight joints.

The extra large underhead bearing area of "PLY-HEAD"

Rivets greatly reduces failure of the plywood surface at the fastening point.

A hammer is the only tool needed to expand these Southco Rivets. Special tool costs and maintenance are eliminated. No buck-up or finishing operations are required. There is no noise, no waste, no clean-up.

Simplify your body building and maintenance operations; send for complete data now. Southco Division, South Chester Corp., 228 Industrial Highway, Lester, Pa.



Southco Div., South Chester Corp.  
228 Industrial Highway  
Lester, Pa.

Please send me your new, illustrated Southco Blind Drive Rivet Catalog containing sizes, types and specifications.

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CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

**SOUTHCO FASTENERS**  
©1957 **LION**



Natural obstacles and remote location pose problems for Kaibab Lumber Co.'s operations on the rim of the Grand Canyon. Here is how . . .

## Rigid PM Keeps LOGGING FLEET MOBILE

### Mobility

Kaibab Lumber Co. is rapidly gaining a reputation as one of the nation's most spectacular logging operations. You can sum up its success with one word: "Mobility."

From a tourist's point of view, Kaibab's operation is set in a scenic wonderland. The company harvests timber from Kaibab National Forest, a 250 square mile tract, perched on the north rim of the Grand Canyon in Arizona, and stretching north to the Utah border. It's the nation's largest stand of virgin ponderosa pine trees, containing an estimated four billion board feet of timber.

From a practical point of view, the timber land poses problems. Nearest rail-head is more than 145 miles away. The forest is hemmed in by towering cliffs and barren desert. Deep snow stops the logging operation from December through mid-April. Nearest supply sources of any consequence are Salt Lake City, Utah, (300 miles) and Phoenix, Ariz., (400 miles).

Despite the problems, Kaibab now harvests 30 million board feet of lumber a year, has a \$2¼ million annual business, serves customers in an eight-state marketing areas.

Behind these figures: rolling wheels. Keeping the wheels rolling: a detailed preventive maintenance program. The article on these pages tells how it's done.

Here's the logging fleet at Kaibab's head-

KAIBAB LUMBER Co. expects 1½ million miles of trouble-free operation from its logging and lumber fleets this year. It will probably get them.

Keeping the fleets rolling is a year-round job for the staff at the company's headquarters shop at Fredonia, Ariz. During the logging season, it's a matter of preventive maintenance, routine servicing, and emergency repairs. In the off-season, there's a complete inspection and overhaul job to be done on the logging fleet.

### Shop Space 5000 sq ft

Maintenance headquarters is a 50 x 100-ft shop at the mill site. Shop superintendent is Wendell Bentley. He has been in the company's shops since 1950, has charge of maintaining all vehicles and logging equipment.

During the logging season, the shop's crew of five mechanics operate 18 hours a day, five days a week, with a two-shift set-up. There are two mechanics, one lube man and one tire man on the night shift to handle scheduled preventive maintenance and minor repairs that may come up during the day's run. Drivers prepare daily reports of any work needed on their rigs. A crew of the same size services over-the-road units and lumber yard equipment on the day shift. Any changeovers and overhauls are handled by a small crew on the week-end.



quarters shop at Fredonia, Ariz. The shop is 145 miles from the nearest railhead, has \$30,000 parts stock

Bentley and his staff actually have two fleets to maintain. At the timber stand there are 10 tractor-trailer units used to move the cut logs from the forest to the mill. They're Kenworth tractors with Cummins diesels pulling pole trailers with 9-ft bunks and 3½-ft stakes. Payloads range from 60,000 to 80,000 lb. Each unit makes three trips a day from the timber stand to the mill. They're equipped with tachographs to hold drivers to a maximum of 40 mph.

Also in use on the logging operation:

- 12 radio-equipped pickup trucks;
- 2 radio-equipped Road Patrol graders which maintain the company-built roads between the cutting operation and the mill. The access road from Fredonia to the timber tract was originally built by the U. S. Forestry Service. Kaibab now handles all maintenance on this road and builds and maintains all roads at the logging site. It builds about 20 miles of new roads a year to Forestry Service specifications.
- 1 motorized log loader. This is a Link Belt model with Berger air-operated tongs which lift the logs



Kaibab's timber tract straddles the Grand Canyon. It's 400 miles from Phoenix, 300 miles from Salt Lake City

and place them in position on the trailers.

- 3 Hyster Skidding Arches used to move the logs into position for loading.
- 4 Caterpillar D-7 tractors. They're used to pull the skidding arches, and, when equipped with bush-booms, they're used to stockpile logs.

### The Highway Fleet

For highway delivery of lumber there's a fleet of 11 truck and full-trailer trains. All highway tractors are Kenworth sleeper-cab models. These combinations carry an average payload of 45,000 to 50,000 lb. Average round-trip is 1000 miles with some regular trips as far as 725 miles from headquarters and special hauls of up to 1000 miles one-way. Company policy is to dispatch loads on Monday and schedule the driver back at Fredonia by Friday at the latest. Routes range the Southwest, covering California, Oregon, New Mexico, Idaho, Colorado, Nevada, Utah, Arizona.

In the mill yard, there are three straddle trucks and six heavy-duty fork lift trucks.

(TURN TO NEXT PAGE, PLEASE)

## Logging Fleet . . .

Continued from Page 67

At right, one of 11 sleeper cab Kenworths used for lumber delivery from the mill to customers

### Shop Facilities

The shop at Fredonia handles four trucks at a time, is equipped for nearly all types of servicing. Only engine rebuilding is farmed out, and this is done only after the engine has had one major overhaul in the shop.

Trucks are replaced at regular intervals: in the 400,000 to 500,000 mile range for highway units and when worn out (about five years) for the logging rigs.

During a truck's life the shop can handle major work on engines, transmissions and rear ends, and servicing of fuel injectors, starters, generators, etc.

### The PM Program

Current practice is to do a frame job on the truck engines at the first overhaul, covering bearings, liners, pistons, rings and valves. The second time the engine needs an overhaul, it is farmed out for a complete rebuild.

When logging operation closes down because of winter snows, all logging equipment is completely disassembled and inspected. All bearings, gears and parts that show wear are replaced. Highway equipment receives the same treatment but on a different mileage basis.

### Ample Parts Supply

Because of its remote location, Kaibab has to carry a stock of replacement parts for its fleet and mill and logging equipment. Parts inventory for all equipment is worth about \$30,000. All parts are binned and shelved in a stockroom that would compare favorably with many truck dealers. Most parts needs can be anticipated, but when a part is out of stock and needed in a hurry one of the company's four aircraft can be dispatched to get it.

Company officials believe the success of the fleet operation depends on following a rigid preventive maintenance schedule and carefully screening all drivers.

Wheels and brake action are lubricated every day.



Readily accessible parts on the arches and Caterpillar tractors are lubricated twice a day, in the morning and after lunch. All units receive a complete lube job every five days or 900 miles. Engine air cleaners are completely serviced at the same time as the chassis lube. Severe dust conditions and low-speed operation warrant special attention to the oil bath type air cleaners.

Strict attention is paid to truck manufacturers' specifications for all lubricants, particularly for gear lubricants that call for metal or extreme pressure oil. Multi-purpose gear lubes have proved satisfactory on units which face short, hard pulls.

Engine oil, oil filters and oil screens are changed every 2000 miles on logging equipment and about every 4500 miles on highway units. These may seem to be rather short intervals, but Kaibab has found they pay off. Some of the fleet's equipment has run five seasons or about 400,000 miles without needing replacement parts.

### Nylon Brake Bushings

Nylon bushings are used on all brake shoes and brake cam-shafts. This has doubled the brake lining and drum life.

Wheel bearings on all logging trucks and trailers are re-packed every 10,000 miles with a short fiber wheel bearing grease. Combined with the other lube practices, this has meant that the logging trucks have never lost a wheel bearing U-joint.

Nylon tires are used on all equipment to stand up to the limestone roads and surfacing materials which





Kaibab builds and maintains its own logging roads. Road patrol graders keep them in shape. Almost-hidden pickup truck in background is radio equipped

Leslie Pugh is assistant purchasing agent and has charge of the \$30,000 parts stock and inventory

tend to cut and work into the tires. Kaibab has a rigid policy of matching all tires for rolling radius, since all units are equipped with dual-drive rear ends. Close attention is also paid to tire pressures. Each axle is connected to a temperature gage on the instrument panel which warns the driver when one set of the rear end units is overheating because it is being overworked by mis-matching or low tires.

#### Brake Problems

Kaibab has a terrific brake problem on the logging trucks because of heavy loads, steep downgrades, dust and corrugated roads.

The problem was greatly reduced when Williams power brakes were installed on all trucks. This unit, in effect, makes the engine act like an air compressor by closing off the exhaust manifold. The driver can control the retarding effect of the unit by adjusting the air pressure on the retarding valve cylinder.

The power brakes have also helped lengthen engine life by maintaining a more even engine temperature. They also help greatly in maintaining the proper engine rpm for the vehicle and help to compensate for excessive engine speeds and rpm on the downgrades. Shop mechanics start each engine every morning, double check them and let them warm up for 30 minutes before the truck goes into service.

Several of the logging trucks are equipped with Vickers power steering. This extra equipment aids the driver in keeping control of his rig on soft road shoulders and in turning around in cramped quarters.

Kaibab has practically eliminated air line breakage



caused by vibration resulting in trucks operating over rough, bumpy roads. The solution was to use Airquip hose or its equivalent wherever possible.

Breakdowns of all kinds have been practically eliminated on the logging equipment, thanks to the efficiency of the inspection and replacement program. That's a big pay-off in an operation which has a limited logging season and which depends on mobility for its success.



## Oregon Logging Fleets Cooperate for **SAFETY IN**

Here is how a group of fleetmen win public goodwill by

**OTTO'S MOTTO** is: "Pledged to Safety."

OTTO stands for Oregon Timber Transport Operators, a voluntary association of lumber industry members dedicated to training their drivers to be careful and courteous.

Members' trucks are identified with the big green and white decal (above) which bears the group's motto. It's a symbol that's becoming increasingly well known and respected in the nation's leading logging and lumbering state. There was plenty of room for improvement. In 1950, accidents involving log loading, hauling or dumping took 29 lives. By

1956, thanks to OTTO's safety program at least in part, the total of fatal accidents was 26 despite a 22.9 per cent increase in exposure rate.

Actually, the program got under way before OTTO was formally organized. Things started to roll when E. H. Crosby of Portland, manager of Columbia Basin Loggers, and some other far-sighted lumbermen decided to see what could be done. At Crosby's request, the Columbia Basin group donated \$500 in November, 1950, to start an action program. Crosby wrote to the more than 6000 licensed operators of log or lumber trucks in Oregon, asking each to contribute \$6 per



By Eleanor Matthews

Helping distressed motorists is one phase of OTTO's program. Here, safety engineer Jack Curtis lends a hand. The panel truck has covered more than 126,000 miles since 1951, taking Curtis into most of the state's logging camps to train drivers in safety techniques

ful new rig. A man on the go, he averages 2000 miles a month in OTTO's specially equipped panel truck, had logged 126,000 miles in it by April of this year.

"Coos and Curry counties, over on the southern Oregon coast, were the worst trouble areas when we started," Curtis says. "Over 400 persons attended our big meeting in Coquille in January, 1951, but it took awhile to sell them on the program. I spent most of the summer of 1951 in the Coquille area. At first, I just stood around the log dumps talking to people.

"The companies were quick to cooperate, but the rugged individualists of truck drivers were 'from Missouri.' The operator with one truck doesn't believe that he needs any help in driving it, and I have to persuade him that I can help him before I can get into his cab. An experienced driver usually feels insulted if told there are things he needs to learn about driving. Most are largely self-taught, and some have astonishingly bad driving habits. If I can show them one thing they've been doing all their lives that's wrong, they are shocked into listening."

#### Newspapers Become Interested

"Gradually I began to get invitations to visit individuals and districts. Then the editors of the *Coos Bay Times* and *Coquille Valley Sentinel* became convinced of the value of the program and began to editorialize on OTTO. And, of course, some of our best selling is by word-of-mouth from one person we have helped to another who needs help."

When OTTO moves into a new area, Curtis calls on local editors and radio station managers to explain the program. The organization has never paid for radio time, but has been given much valuable time as a public service. "I like to be on a combination program with a farm agent," Curtis says,

(TURN TO PAGE 186, PLEASE)

## THE TALL TIMBER

improving the industry's safety record

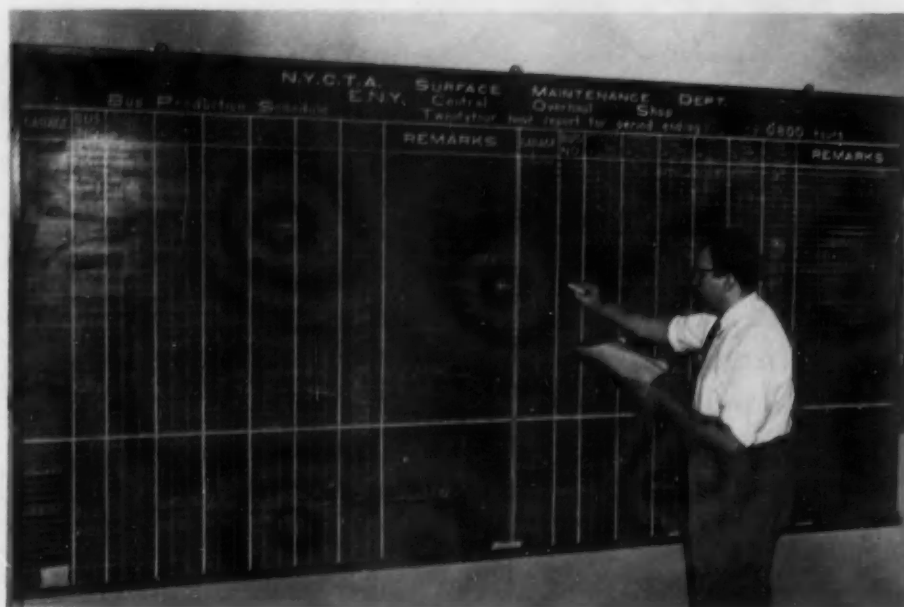
truck per year to solve the industry's public relations problem.

OTTO was formed in January, 1951, at a meeting of lumbermen, state and federal officials and other interested groups. Crosby was elected chairman of the board of governors, a position he still holds. Shortly after this, he appointed Jack L. Curtis as safety engineer.

Curtis was a good choice. He's been in the trucking industry since 1925. He's a skilled mechanic, a persuasive speaker, and had spent six years in Portland as district supervisor of safety engineering for Markel Service, Inc. Some of his best safety messages have been delivered while he was repairing a broken air line or teaching a driver how to handle a power-

## Better Maintenance Scheduling

## New York City Transit has cut maintenance expenses by planning ahead



Control board lists each bus in for service, shows where it is, where it is going, when it will be finished. Information is copied onto daily work from (below). Each department head gets one

[illegible]

**Photos by Roland Harvey**

▼ WE HAVE 2000 coaches operating out of 11 garages in Brooklyn and Manhattan. Our base shop here in Brooklyn is one of the largest in the country, yet we find that even these facilities are taxed if maintenance scheduling is not given top priority. In 1954 we were "snowed under" in maintenance work.

Many of our buses were thousands of miles and months behind in getting the service they needed.

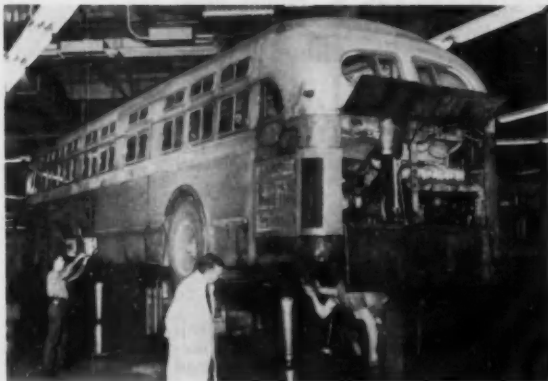
Drastic action was necessary, and drastic action we took. Our objective was to get buses out on the streets working. Our job was to see that they received thorough and periodic attention. We accomplished



By Hy Feldman, Director  
Surface Maint. Dept., New York City Transit Authority

## Ups Work Flow

then doing the work as planned



Inspection crew (above) makes thorough check when coach comes in for service, lists all work needed. Dynamometer analysis (below) and road tests are part of final check



both requirements through a complete revision of maintenance scheduling. Today we have a planned maintenance routine that combines "office theory" with practical demands upon our base shop facilities. Under this system we can produce a quality maintenance job in the shortest length of time.

### Monthly Conference Sets the Pace

We set up a "20th of the month" conference to determine what work will be required in the base shop for the following month. Present at this meeting are the director the surface maintenance department, the shop superintendent, the superintendent of operations, the material control director, and the superintendent of garages.

We have the following records at our disposal at this time:

- Total engines miles of every bus in the fleet broken down by operating location.
- A record of the fuel and oil consumption of each coach. Prior to this each garage chief has been given records of his equipment so that he may comment on his anticipated work load for the base shop.
- The day-to-day scheduled and un-scheduled capacities of the base shop for the following month.

Then, based upon these data, the shop schedule is written up. Immediately thereafter each location chief is furnished with a list of the equipment that will be required in the base shop for the following month. Furthermore the exact days for the "in" and "out" scheduling are provided. Thus everyone knows exactly what schedules must be maintained.

### Control Board Calls the Shots

This information is set up on our base shop control board, and this becomes the "heart" of the control system. A special clerk mans the board to keep it up to date. Each date as of 8 a.m. the information from the board is transposed to a 14 x 17-in. form made up in exact replica of the board. This is then distributed to each maintenance head for scrutiny and action.

On the board (and form) are listed such information as the Garage Location, Bus Number, Scheduled Overhaul Date, Unscheduled Mechanical Date, Unscheduled Body Work, Paint Date and Final Completion Date. Each time a bus is moved to a different area, that projected completion date for the work is set up. As each job is completed, the board is adjusted to show the progress. Thus, a quick examination of the board tells us exactly what is being done and where. Without this we would be continually running around the shop looking for busses to determine how the work was progressing.

### Schedules Must Be Followed

This sort of planning must adhere to rigid schedules. A few breakdowns in the system can upset the whole monthly schedule. Therefore, every method is

(TURN TO PAGE 178, PLEASE)

# DETROIT EDISON

## Cuts Battery Failure 40%

**When you know the cause, road calls can be cut. First, you need reports that give the facts. After that you set-up a prevention program . . . like this fleet did**

**By G. A. Spencer, Supt., Motor Transportation Dept., Detroit Edison**

**Y**OU CAN'T solve your maintenance problems until you know what they are. And about the best way we at Detroit Edison know to get at the facts is to set up a good service call reporting system, supported by forms that give us meaningful information.

We had known for a long time, for example, that battery troubles appeared to account for a very high percentage of our field service calls. But we did not know the exact percentage, what was causing failure, or how much of our other trouble might be the result of battery failures.

### Pinpoint Your Trouble

Accordingly, in the fall of 1955 we overhauled our reporting system, not only for battery troubles, but for others as well. Although some records always had been kept, we felt they were sketchy and of limited value. We revised our procedure to give a complete breakdown of road service calls, the reasons, locations, time lost, etc.

Now, after more than a year of operation we are convinced that the new system plus the maintenance procedures indicated, have been worthwhile. The chart at right shows that for the three months period of 1956 (3rd. period), compared with the same period a year earlier (1st. period), average monthly battery failures dropped from 15 to 9, a drop of 40 per cent. Moreover, percentage of battery calls to total service failures fell off to 9.8 from 15, a reduction of 34 per cent.

### Connected Facts

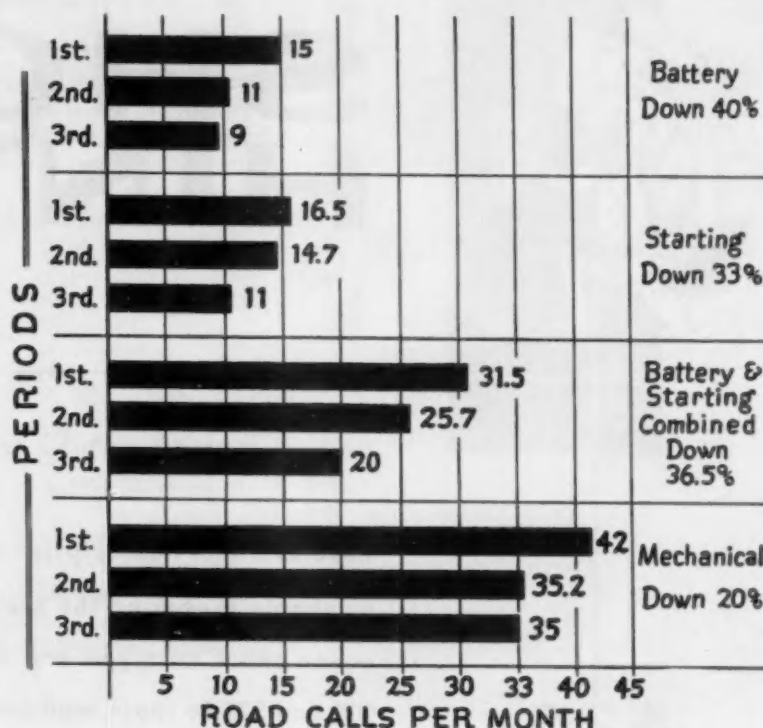
Further, we found that batteries had more than a casual relationship to hard starting problems.

**Emergencies demand Detroit Edison's fleet be ready to roll, stay in service until line repairs are finished**



During these two comparable periods, hard-starts dropped from a monthly average of 16.5 to 11, a reduction of  $33\frac{1}{3}$  per cent in number and 27.7 in percentage of total.

Detroit Edison maintains a fleet of about 1200 units. Of these, about 150 are pool cars, 700 are trucks and motorized yard equipment, and the balance is trailers or tractor-mounted equipment. Service is of utmost importance in our operation. Many times we must move equipment fast to disaster areas



On chart above first period is July-Sept. '55, second is Jan.-Oct. '56, third is July-Sept. '56



Thorough annual overhaul of electrical and ignition system was found to be necessary as a result of revised road service reporting

to restore electrical service. And even with normal power failure, the public has a right to expect immediate attention. Consequently any failure of our vehicles is serious.

#### Field Service Report System

Our revised field service report system now comprises two forms—a service call form and a specialized battery change form. These forms must be turned in to the garage foreman after each call.

One copy is filed by the garage supervisor by truck number, and the other goes to the transportation superintendent for compiling into a monthly report.

- The road service call report indicates the number of the vehicle and its headquarter location, and whether it is a field or garage call. It lists the nature of the trouble, such as battery, hard-starting, tires, and mechanical trouble. It also summarizes

(TURN TO PAGE 130, PLEASE)



# SHOP HINTS

\$10 →

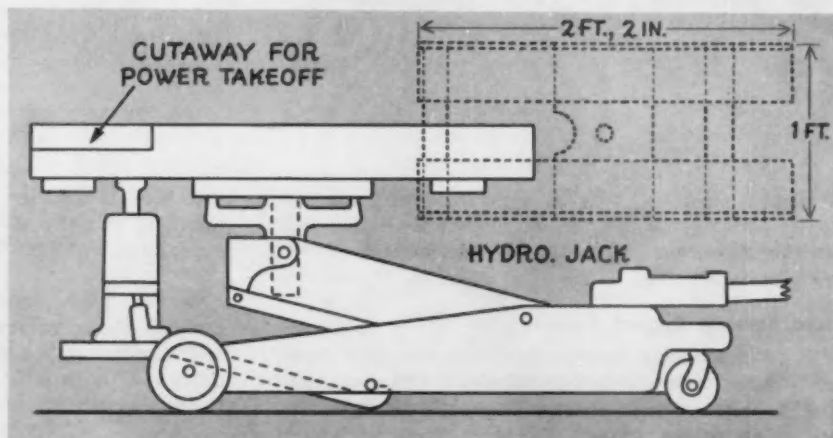
\$25 ↓

Send us a short description and photograph or simple sketch of the shop-made maintenance short cuts you are using. We'll pay \$10 and \$25 to those who submit good ideas

## Transmission Handling Is Eased with Cradle and Floor Jack

By F. X. Johanknecht, Garage Foreman, Northern States Power Co., Red Wing, Minn.

Illustration shows a shop made attachment, for removing and installing heavy duty transmissions. The cradle is made from a 4 x 4-in. angle iron supported at the ends by  $\frac{1}{2}$  x 2-in. flat stock, with a  $\frac{1}{2}$  x 7-in. center plate drilled to accommodate a 1-3/16 x 6-in. rod. All sections are welded together. The lower jack plate is made from a 16 in. length of  $\frac{1}{2}$  x 6-in. flat stock, bent to hook under the jack support and lie on top of the front axle. The small hydraulic jack can be raised or lowered to assist transmission alignment.

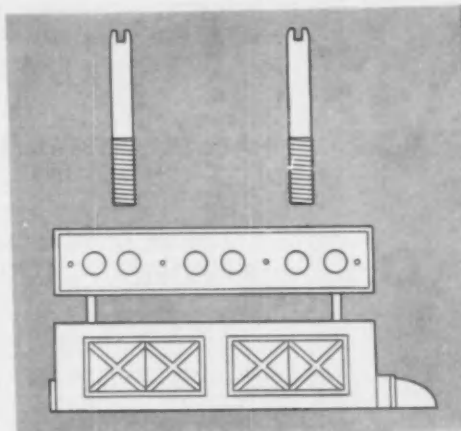




## Alignment Studs Speed Head Installation

By Elmer C. Shirey, Fort Wayne, Ind.

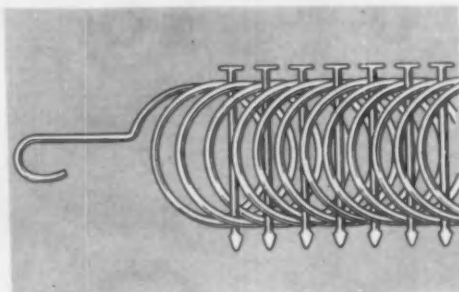
Here is a handy way to align cylinder head with engine block and also keep head gasket in position. Cut the heads off two spare head bolts and slot the tops of the studs with a hack-saw to accommodate a screw driver. Turn studs into cylinder block, hand tight, and slide the gasket over studs. Lower cylinder head down on studs, and start several engine headbolts to hold head in alignment. Starting studs can then be removed.



## Nails Ease Hooking Clutch Spring

By Tracey E. Frink, Middlesex, Vt.

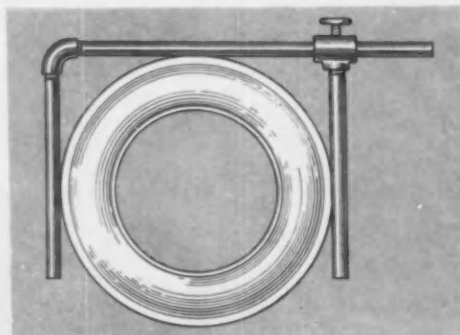
When installing clutch over center spring, measure length necessary to hook spring into position. Drive ten penny nails through the coils of the spring until the desired length is reached, and hook spring into place. Depress clutch pedal and nails will fall out. This is especially helpful on some models where clutch linkage interferes with spring installation.



## Giant Gage Matches Tires

By Lee Bauer, Pepsi-Cola Bottling Co., Los Angeles, Cal.

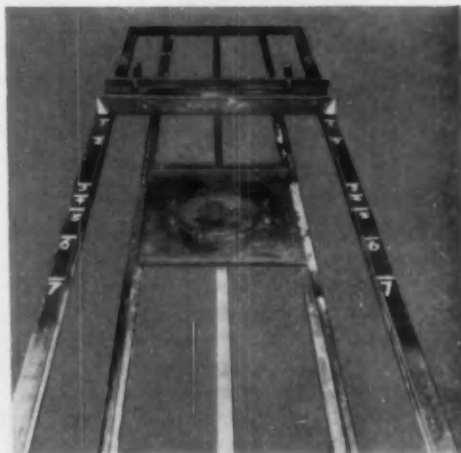
A length of 1/2-in. pipe makes a light weight tire matching gage. Cut two pieces 30 in. long and thread one end of each. Cut one 45 in. long section and thread on one end. Drill the threads out of a 1/2-in. pipe tee so the pipe will slide through top section of tee unrestricted. Drill and tap the top of tee to accommodate a 1/4-in. bolt as a set screw.



## Wheelbase Marks Guide Hoist Position

By George C. Favinger, State Roads Commission, Easton, Md.

The idea of painting numbers on the floor is to show where to place the front axle support when a vehicle is to be hoisted. Each number represents wheelbase lengths keyed to a code posted near the twin post lift. Using the guide, service men can predetermine just where to place the front axle support. This saves time in relocation after the vehicle has been driven over the lift.



## DAILY SUMMARY EQUIPMENT

**6** → **FLEET ASSIGNMENT**

	100	200	300	400	500	TOTAL
MAINTENANCE						
RESERVE	4		3	2	4	13
SPECIAL PROJ.				1		1
OTHER	31	24	91	17	55	258
TOTAL	35	24	94	20	59	272

**7** → **EQUIPMENT STATUS**

	100	200	300	400	500	TOTAL
DENVER	3	2	1	4		10
CHICAGO		4			7	
ST. LOUIS						
LOS ANGELES						
KANSAS CITY						
NEW YORK				6		6
PHOENIX						
ALBANY				3		3
SEATTLE			7			
PUERTO						
BUFFALO				1		1
CLEVELAND				5		5
COLO. SPRINGS						
SYRACUSE						
TOTAL	3	6	1	11	22	43

**2** → **CURRENT MAJOR CHECKS**

STATION	DATE	UNIT NO.	CHECK	ERTS
DEN	1-9	371	E	1-16
"	1-13	212	C	1-18

**3** →

**DENVER MAINTENANCE BASE STATUS**

	100	200	300	400	500	TOTAL
DUE IN						
RECEIVED						
OVERHAUL						
SPECIAL PROJ.						
DUE OUT						
RELEASED						
OVERDUE						

**1** → **LINE MAINTENANCE STATUS**

	100	200	300	400	500	TOTAL
TOTAL LAST 24 HRS						
RELEASED TO L.M.	10	12	9	10		40
RETURNED TO SERV.	7	16	10	2		35

**4** → **CURRENT NON-ROUTINE MAINTENANCE**

STATION	DATE	UNIT NO.	REASON	ERTS
DEN	1-13	212	Engine	1-18
"	1-11	244	"	1-18
"	12-26	232	Accident	1-20
"	1-2	342	Engine	1-16
"	1-13	206	Brake Work	1-18
"	1-9	371	"	1-16
Buffalo	1-10	542	Accident	
Chgo	1-10	517	Accident	
Denver	1-7	115	Eng. Rod out	
Chgo	11-26	516	Accident	12-15/1-10 1-20

## DAILY BRIEFING Tabs

Within an hour after 8 o'clock each morning, Denver-

Chicago's key executives know what happened yesterday.

**SIX MORNINGS** a week at exactly eight-thirty the door of a small room at Denver-Chicago's system headquarters slams shut and is locked. The morning briefing has begun. Inside are a dozen department heads.

### 20 Minutes Outlines Day's Work

During the next 20 min, these staffers will get an exact report on how the coast-to-coast system is doing—as of eight o'clock that morning. They will learn how many power units are out of service for any reason, how many have been delayed en route, how many trailers are loaded and waiting for "power" at each terminal, and what the average payload has been for the preceding 24 hours for each terminal in the system.

It is the fastest, timeliest, most complete meeting of its kind that it has been our privilege to attend.

For several hours prior to the meeting, the teletypewriters have been humming with incoming reports from each of the company's five major divisions. Posted on two large boards at the front of the room (see cut) are yesterday's figures. As today's reports are made, all eyes are glued to the board. Instantly the trained experts can determine whether his particular department did better or worse than the day before, whether important problems have been corrected "on schedule."

The meeting gets under way without so much as a call to order—just the slamming of the door. Included in the group are spokesmen and key staff members from maintenance, the system-wide sales

## DAILY SUMMARY OPERATIONS

**II ACTIVITY INDICATORS**

MILEAGE COMPLETION FACTOR %

DEPARTURE COMPLETION FACTOR %

LOAD FACTOR 75%

ARRIVALS at TERMINALS ON TIME WITHIN 30 MIN. %

REGULAR & EXTRA SCHEDULES MILES-OPTR. %

LESS CANCELLATIONS 167,795,166

SCHEDULED OPERATIONS 167,795,166

PLUS EXTRA SCHEDULES

TOTAL OPERATIONS

**DELAYS OVER 60 MINS. BY CAUSE**

	100	200	300	400	500	TOTAL
OPERATIONS						
WEATHER						
MECHANICAL	1	2	2	1	4	10
CONNECTIONS						
TERM. HANDLING						
ACCIDENT						
OTHER						
TOTAL	1	2	2	1	4	10

**9 CANCELLATIONS & DELAYS OVER 60 MINS.**

	CANCELLATIONS	DELAYS
DENVER		
CHICAGO		19
ST. LOUIS		3
LOS ANGELES		3
KANSAS CITY		3
NEW YORK		3
PHOENIX		
ALBANY		1
SEATTLE		
PUEBLO		1
BUFFALO		
CLEVELAND		
COLD SPRINGS		
SYRACUSE		1
TOTAL		38

GROSS TONNAGE 4,360,792

AVERAGE PAYLOAD 26,269

**DELAYS OVER 60 MINS. ENROUTE**

LOCATION	NY-CHL	CHL-DEN	DEN-LA	LA-DEN	SEA-DEN	ST.LA

**NEW YORK to LOS ANG. TRIP PERFORMANCE**

TRIP	FROM	TO	DPTR.	PERCENT	ARRIVE	REASON	DPTR.	PERCENT
39	NY	LA						
40	NY	LA						
E 41	LA	NY						
E 42	LA	NY						
SOUTHWEST-E 9	PX	CH						
E 12	PX	DN						
16	SL	PX						
26	DN	PX						
36	CH	PX						
NORTHWEST-E 1	SE	CH						
3	SL	SE						
E 37	SE	SL						
43	CH	SE						
E 43	SE	DN						
46	DN	SE						
SOUTHEAST-E 25	LA	KC						
E 29	PX	SL						

**12 REVENUE TON MILES** %

**SYSTEM SCHEDULED LOAD FACTOR** 75%

**LOAD FACTOR FORECAST FOR TODAY** %

## Equipment

what needs doing today—By Bart Rawson

department, the Denver terminal, the dispatch office, and always, W. J. Blohm, operating vice-president.

### Maintenance Report Is First

First report comes from the maintenance department, General Shop Superintendent Bryce Allingham speaking. It includes (numbers refer to designated parts of charts above) . . .

1. The number of power units in for routine service.
2. Specific units in for major maintenance checks.
3. The estimated return to service date.
4. Individual units in for non-routine service, including accidents.
5. The number of units delayed by mechanical failure.



Key men at morning conference are (from left) Chief Dispatcher Harry Dean, Supt. of Maintenance Bryce Allingham, Supt. of Equipment Control Roy Sands and Vice President W. J. Blohm. They report on fleet's present status as compared to data on wall chart (showing activity during past 24 hours) to pinpoint day's operational needs

It should be noted that all reports are based on five major divisions, coded as follows:

- 100—Denver to Kansas City and St. Louis
- 200—Denver to Chicago
- 300—Denver to Los Angeles and Phoenix
- 400—Denver to Seattle
- 500—Chicago east

(TURN TO PAGE 142, PLEASE)

# LP GAS CUTS LIFT TRUCK COSTS

**V** LP GAS is becoming increasingly popular as a fuel for industrial fork lift trucks. Among the reasons are longer engine life, less need for maintenance, longer oil-change intervals, less obnoxious exhaust gases containing less carbon monoxide, and lower cost of operation as compared with gasoline powered trucks.

## Distinct characteristics of

LP Gas require slightly different construction of the engines which use it. Either propane or butane may be classed as LP gas, but the commercial product is usually a mixture of the two. Both have extremely low boiling points and must be kept under pressure to retain their liquid state. At 100°F., propane develops 172-lb pressure while butane develops 38-lb pressure.

Propane has an octane rating of 100; Butane is 93. To obtain fuel economy, LP gas engines have compression ratios of from 8 to 1 to 9 to 1.

A cold intake manifold is used with LP gas since the fuel is a gas when it enters the manifold and does not require a hot spot to help vaporization. A simple air-gas carburetor is used.

Since LP gas is a liquid only when under pressure, a fuel tank capable of withstanding high pressure is necessary. Clark Equipment Co.'s LP gas fuel tanks, for example, are designed for working pressures of 240 psi with test pressures of 480 psi, and incorporate a relief valve to by-pass and vent pressure exceeding 275 psi.

## Longer engine life is

probably the principal advantage of the fuel. Operating characteristics result in reduced engine wear, and lower engine maintenance costs. Just how this is accomplished is illustrated by the following points:

- Fuel enters the combustion chamber as a gas rather than as a vaporized liquid, thus insuring almost complete burning. Unburned carbon deposits are almost entirely eliminated.
- High octane rating allows clean burning, thereby eliminating lead compound deposits in the combustion chamber. LP gas is completely free of materials that cause varnish deposits.
- Since the fuel is a dry gas, there is no liquid to wash down the cylinder wall lubricant. Crankcase dilution is virtually eliminated. This results in less wear on cylinder walls and bearings and longer life for lubricating oils.

Growing use of LP gas as a lift truck fuel has caused manufacturers to make their equipment adaptable for its use. This is Clark Equipment Co.'s LP gas-powered model Clarklift 30



Here are the facts you need to

- Simple carburetor has no jets or other mechanisms that require maintenance and adjustments.
- Fuel pump is eliminated because LP gas is under its own pressure in the tank.

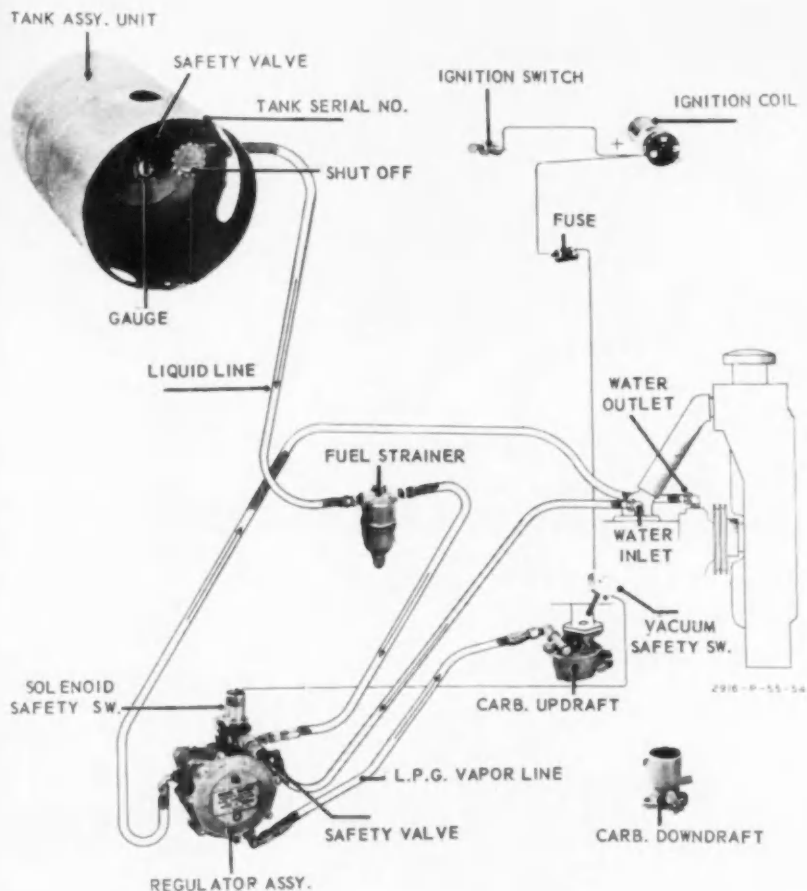
## Lower fuel costs are

generally realized with LP gas but this largely depends on geographic location. Generally speaking, LP gas costs less than gasoline in the western, mid-western, north-central and Gulf states. In the north-eastern states, it is usually more expensive.

## Cost of storage

facilities has, in the past, been a factor in some com-





Filling individual tanks from bulk storage is simple with this equipment. A device on the scale shuts off gas flow when tank is full

At left is the simple fuel system of an LP gas-powered fork truck engine. Main components are the tank, vaporizer regulator and downdraft carburetor

Photos courtesy Clark Equipment Co.

## decide whether it can help you. Safety's no problem, and the savings are impressive

panies' decision not to use LP gas lift trucks. Growth of the LP gas industry in recent years, however, has increased competition among distributors so that companies can arrange to have small quantities delivered at frequent intervals rather than maintaining large bulk supplies.

The distributor will deliver and pickup the cylinders, and the company need only provide storage racks in a safe place. This means that LP gas can now be practical even for companies with only two or three fork trucks.

### LP gas exhaust fumes

are colorless, odorless, and almost harmless. Because

of the more complete burning of the fuel, fewer exhaust fumes are produced than with gasoline engines. Only a minute quantity of carbon monoxide is given off because of the fuel's high volatility.

For some applications, even the small quantities of fumes and odor given off by LP gas are objectionable. Where this is the case, a special muffler device developed by Oxy-Catalyst, Inc. will probably solve the problem. The catalytic muffler in past tests has eliminated an average of 99.7 per cent of carbon monoxide, 88.8 per cent of hydrocarbons, 83.9 per cent of aldehydes at governed speed (100 per cent of aldehydes at idle), and effectively reduced odors caused by Ethyl Mercaptan

(TURN TO PAGE 161, PLEASE)



## FLEETMAN'S GUIDE TO

**Driver Reports . . . . .**

**. . . . . Shopman Knows**

**1. Starter won't turn engine, but lights stay bright**

- a. open circuit at starter
- b. the solenoid is open or stuck
- c. starter switch is defective

- d. brushes are seating improperly
- e. starter drive is broken or stuck

**2. Lights dim as starter turns engine**

- a. starter drive is jammed
- b. commutator is dirty

- c. there is resistance at starter switch

**3. Lights go out as starter is depressed**

- a. battery is down or cell is defective
- b. battery cable is loose

- c. terminals are corroded
- d. starter motor is shorted
- e. engine seized

**4. Starter turns over, but engine won't start (engine not getting spark)**

- a. points not opening
- b. corroded or burnt points
- c. defective ignition switch
- d. open circuit in pigtail wire

- e. shorted pigtail wire
- f. condenser open or shorted
- g. cracked primary insulator
- h. defective distributor cap

**5. Starter turns over, but engine won't start (engine not getting fuel)**

- a. defective fuel pump
- b. fuel selector valve turned on empty tank
- c. defective fuel line
- d. defective flex fuel line

- e. no fuel in tank
- f. defective carb. float (heavy)
- g. clogged fuel filter
- h. ice in fuel system

When a driver calls in and says he's stalled on the road, what do you do? Send a mechanic? Tow the rig home? Call in an outside repair shop? Make a temporary repair? If you knew what caused the trouble, you could make a better decision. Here's a quick guide to help decide the proper step even while the driver is reporting. Heavy line shows common breakdowns as reported by drivers. Right hand column shows principal causes, with the most common ones marked with a ●



## EXPEDITING ROAD FAILURES

### Driver Reports .....

### ..... Shopman Knows

#### 6. Engine misfiring at all speeds (not enough power to pull hills)

- |   |                                     |
|---|-------------------------------------|
| ● a. defective spark plugs                    | j. defective carburetor             |
| ● b. defective breaker points                 | k. defective intake manifold        |
| c. incorrect breaker point gap                | l. broken valve spring              |
| d. defective sticking or bouncing breaker arm | m. valve sticking open              |
| e. defective condenser or coil                | n. valves warped or burned.         |
| f. loose connection in primary circuit        | o. incorrect valve tappet clearance |
| g. defective ignition switch                  | p. defective valve seat             |
| h. worn distributor shift bushings            | q. broken or stuck piston rings     |
| i. defective high tension wires               | r. broken piston                    |
|   | ● s. defective head gasket          |
|   | t. ignition timing advance too far  |

#### 7. Engine idles normally but cuts out at high speed

- |                                  |                                     |
|----------------------------------|-------------------------------------|
| ● a. defective ignition coil     | h. worn distribution shaft bushings |
| ● b. defective ignition points   | ● i. cracked distributor cap        |
| ● c. defective spark plugs       | j. defective high tension wires     |
| d. defective ignition condenser  | ● k. defective carburetor           |
| e. worn bearing on breaker plate | l. broken valve spring              |
| f. defective vacuum control      | m. defective fuel pump              |
| g. defective governor            |                                     |

#### 8. Radiator boils

- |                                |  |
|--------------------------------|--|
| ● a. insufficient water supply | h. cracked cylinder head or block      |
| ● b. clogged radiator          | i. water hose collapsing under suction |
| c. restricted air flow         |  |
| d. shutter not opening         | j. defective pump impeller             |
| e. defective thermostat        | k. blown cylinder head gasket          |
| f. broken fan belt             | l. incorrect cylinder head gasket      |
| g. slipping fan belt           |  |



## Fleetman's Guide to

### Driver Reports . . . . .

#### 9. Engine runs hot but does not boil

- a. engine tight as result of being overhauled
- b. improper thermostat
- c. frozen heat control
- d. restricted air flow

#### 10. Engine knocking — oil pressure normal

- a. valve tappets not adjusted properly
- b. broken or weak valve springs

#### 11. Engine knocking — oil pressure low

- a. burned out main or connecting-rod bearing

#### 12. Low oil pressure or no pressure on gauge

- a. restricted oil lines (intake side)
- b. worn main bearings or connecting-rods
- c. low crankcase oil level
- d. dilution of crankcase oil
- e. defective oil gauge
- f. clogged oil pump screen

#### 13. Clutch does not engage or slips

- a. improper clutch pedal adjustment
- b. worn or damaged clutch plate

#### 14. Clutch chatters

- a. oil or grease on clutch facings
- b. warped or bent pressure plate
- c. distorted flywheel
- d. defective or loose engine mounts

### . . . . . Shopman Knows

- e. incorrect ignition timing (very late)
- f. restricted exhaust system
- g. lean fuel air ratio
- h. insufficient engine lubrication

- c. broken piston ring lands
- d. worn piston pin or bushings
- e. broken piston

- b. oil level too low

- g. worn gears in pump or broken drive
- h. worn or broken oil relief valve spring
- i. relief valve piston frozen in open position

- c. weak or broken pressure springs
- d. clutch finger binding

- e. broken damper springs in clutch disc hub
- f. improperly adjusted pressure plate



## Expediting Road Failures



### Driver Reports .....

#### 15. Clutch will not release

- a. defective clutch plate
- b. too much free pedal play
- c. broken pressure springs
- d. spring section lodged between clutch plate and pressure plate

#### 16. Transmission will not stay in gear

- a. worn gears or shaft bearings
- b. excessive end play in gears or shafts
- c. improper linkage adjustment

#### 17. Transmission is frozen

- a. chip in bearing or gear
- b. misaligned shift yokes

#### 18. Air brake air pressure build-up too slow or will not rise to proper pressure level

- a. leakage in lines or valves
- b. insufficient clearance at compressor unloading valves
- c. defective compressor
- d. clogged air cleaner on compressor

### ..... Shopman Knows

- e. bent clutch plate
- f. defective or broken clutch linkage
- g. improperly adjusted pressure plate fingers

- d. yokes out of alignment
- e. weak position finder or poppet
- f. loose propeller shaft companion flange

- c. shifter rail worn (goes into two gears)

- e. slipping compressor drive
- f. defective air governor
- g. leaking compressor discharge valves
- h. excessive carbon in compressor head or discharge line

#### 19. Air brake air pressure normal — still no brakes or poor brakes

- a. defective slack adjuster
- b. open service line
- c. insufficient push rod travel

- d. excessive shoe to drum clearance
- e. glazed lining

#### 20. Slow air brake application

- a. low air pressure
- b. broken brake chamber diaphragm
- c. restriction in line

- d. excessive push rod travel
- e. worn linings
- f. inoperative quick release valve



## Fleetman's Guide to

### Driver Reports . . . . .

#### 21. Slow air brake release

- a. inoperative quick release, relay or application valve
- b. restriction in lines
- c. inoperative intake valve in brake application valve

#### 22. Hydraulic brake pedal goes to floor with no brakes

- a. defective master cylinder or wheel cylinder
- b. air in hydraulic system
- c. improper brake adjustment

#### 23. Hard pedal — hydraulic brakes will not hold vehicle

- a. glazed linings
- b. grease or brake fluid on linings
- c. misalignment in linkage
- d. sticking vacuum check valve
- e. collapsed vacuum hose or plugged lines

#### 24. Locked hydraulic brakes

- a. restricted by-pass port in master cylinder barrel
- b. open atmospheric valve in power

#### 25. No fuel or insufficient fuel — 2-cycle diesel

- a. low fuel supply
- b. leaking primary fuel filter gasket
- c. faulty injectors
- d. restricted fuel lines to injectors

#### 26. No power to pull load — 2-cycle diesel

- a. improper engine governor adjustment
- b. improper fuel rack setting
- c. injector timing off

#### 27. Failure to start in cold weather — 2-cycle diesel (fuel factors only)

- a. air leaks in fuel system
- b. flow obstruction
- c. fuel pump inoperative

### . . . . . Shopman Knows

- d. sticking rollers of shoes frozen at anchor pin
- e. inadequate lubrication of foundation brake system

- d. low fluid or leak in lines
- e. leak in compensating valve
- f. compensating port or outlet fitting seal leak

- f. leaking vacuum reserve tank
- g. binding vacuum cylinder piston
- h. loose piston plate or screws causing vacuum leaks
- i. faulty diaphragm rubber stop in reaction diaphragm

- cylinder or Hydrovac
- c. defective piston in master cylinder

- e. restricted filters, primary or secondary
- f. fuel pump not functioning

- d. air leaks in fuel system
- e. clogged air cleaners or silencer
- f. obstructed blower intake
- g. excessive exhaust back pressure

- d. plugged spray nozzle or filter
- e. dirt in pump valves

# Expediting Road Failures



## Driver Reports .....

## ..... Shopman Knows

### 28. No fuel or insufficient fuel — 4-cycle diesel

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>a. air leaks in suction line between pump and tank</li> <li>b. clogged primary or secondary filters</li> <li>c. inoperative fuel supply pump</li> <li>d. clogged injection nozzles</li> </ul> | <ul style="list-style-type: none"> <li>e. sticking injector pump valve plunger</li> <li>f. governor stop in closed position</li> <li>g. leaking high pressure fuel lines</li> <li>h. inoperative control rack or improper adjustment</li> </ul> |
|--|---|

### 29. Insufficient power to pull load — 4-cycle diesel (fuel factors only)

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>a. insufficient fuel supply</li> <li>b. incorrect injection timing</li> <li>c. clogged air strainer</li> <li>d. restricted injector nozzles</li> </ul> | <ul style="list-style-type: none"> <li>e. improper grade of fuel or water dilution</li> <li>f. worn fuel pump</li> </ul> |
|---|--|

### 30. Generator fails to charge

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>a. open charging circuit</li> <li>b. sticking brushes</li> <li>● c. dirty or burned commutator</li> <li>d. grounded commutator</li> </ul> | <ul style="list-style-type: none"> <li>e. open circuit in field</li> <li>f. poor soldering on armature</li> <li>g. grounded wiring</li> <li>● h. defective regulator</li> </ul> |
|--|---|

### 31. Low unsteady charging rate

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>a. slipping fan belt</li> <li>b. defective ammeter</li> <li>● c. improperly seating brushes</li> <li>d. weak brush spring tension</li> <li>e. poor bond between brush and pigtail</li> <li>f. out of round commutator</li> <li>g. resistance in charging circuit</li> </ul> | <ul style="list-style-type: none"> <li>h. high mica between commutator bars</li> <li>i. open armature windings</li> <li>j. high resistance at battery—terminal posts</li> <li>k. loose connections</li> <li>● l. defective regulator</li> </ul> |
|--|---|

### 32. Excessive charging rate

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>● a. defective regulator</li> <li>● b. regulator set too high</li> <li>c. grounded field</li> </ul> | <ul style="list-style-type: none"> <li>d. grounded field to regulator wire</li> <li>e. shorted cell in battery</li> </ul> |
|--|---|

### 33. Battery run down

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>● a. excessive use of electrical units</li> <li>b. insufficient driving</li> <li>c. low regulator setting</li> <li>d. loose or defective fan belt</li> </ul> | <ul style="list-style-type: none"> <li>e. corroded battery terminals</li> <li>f. short in charging circuit</li> <li>g. stuck cut out in regulator</li> <li>h. defective stop light switch</li> </ul> |
|---|--|

# BETTER TRY AGAIN, MR. BUCK!

## THIS ►

is the article that started it all. Published in our February issue, it presented a new way to rate accidents based on severity and responsibility. Since then, it has drawn mixed reaction from fleet safety men. Some liked it, others didn't. Typical comments are given below, and there's a detailed criticism by the Post Office Department's Joe Biddle on the next page. The discussion is still far from settled, and your comments are invited. Send them to Bart Rawson, Editor, **COMMERCIAL CAR JOURNAL**, Chestnut & 56th Sts., Philadelphia 39, Pa.

**WILLARD LORD**— "Don's method gives more insight into fleet accident experience than is reflected by frequency alone. I would like to see two figures used: (1) The presently used frequency rate; (2) Average Responsibility and Severity index, based on Don's system."

**"UNCLE CHARLIE" RAY** (Markel Service)— "I have all the respect in the world for Don Buck . . . but: (1) The safety supervisor is not going to take the time needed to use his system; (2) In my book a man is either right or wrong. It is my feeling that the difference between a major accident and a minor accident is only through the grace of God and other contributing factors."

**BILL SIMON** (Safety Coordinator, National Highway Users Conference)— "Not only does Don Buck ride again, he uses a new brand that is certain to help us in an accident prevention round-up. I am suggesting to the National Committee for Motor Fleet Supervisor Training that Buck's plan be considered for inclusion as an option in the Basic Fleet Course."

**KARL RICHARDS** (Automobile Mfrs. Assn.)— "... There is a great deal of merit in Buck's sug-



gestion. We feel that its adoption would make a material contribution to traffic safety."

**PAUL COBURN** (National Safety Council)— "We agree with Joe Biddle (see facing page). It looks like he has pinned Don to the mat on several points."

**G. D. SONTHEIMER** (American Trucking Assns.) — "Don Buck's point system may increase, rather than decrease the chance to cheat. We agree with Joe Biddle's comments."

**THEODORE HOPPE** (Director, Boston's Mayor's Automotive Advisory Committee)— "We are incorporating the point system in our driver incentive program. It rewards safe drivers with one day off with pay for each accident-free year to their credit. Now instead of returning a man to 'zero' when he has an accident, we can assess a varying number of days in accordance with the point value of the accident."

**KEN BEADLE** (Pacific Intermountain Express)— "I doubt that safety supervisors will agree on the point value of a specific accident, and the Home Office shouldn't have to penalize men in the field for assigning wrong point values. I agree with many of Joe Biddle's comments."



**Here's a pointed reply to Don Buck's  
plan for rating accidents, with  
"counter comments" from Don. Maybe you'll  
like this defense of frequency rates . . .**



**By T. J. Biddle**

**"Joe" Biddle is administrator of the Post Office Dept.'s motor vehicle safety program. He was also head of the Navy Dept.'s motor vehicle safety program from 1951 to 1954. He's a member of the National Safety Council's Commercial Vehicle Section Executive Committee, the Federal Safety Council and the American Society of Safety Engineers**

**V** DON BUCK'S article "A New Way to Rate Accidents" reminds us of Lincoln's story about the man who was lost in the woods during a raging thunderstorm and who finally called upon the Lord for a little less noise and a little more light. We have always read his articles with a great deal of enjoyment and profit. But in this case we wish he had used less noisy rhetoric and confined himself to the light of facts as they are known to most fleet safety directors.

Don begins his article with an attack on frequency rate as a yardstick for measuring fleet safety performance. He claims that the great weakness of frequency rate is that it counts all accidents the same whether they are trivial or severe and regardless of who was responsible. He says that this practice leads to all sorts of evil complications such as corrupting the honesty of fleet safety directors, destroying the morale of drivers, and costing management huge and unnecessary sums of money.

His remedy for this is a plan for measuring fleet safety performance which incorporates severity and degree of responsibility.

**This is an old, old story**

Frequency Rate has been attacked more times than a Medieval city but has always proved stronger than the forces arrayed against it. ("True," says Buck, "but I take courage in the knowledge that eventually, one by one, those medieval cities fell; along with witchcraft, witch doctors, and other holy institutions.")

In his attack, Mr. Buck uses conventional tactics and follows the traditional invasion route; namely,

the setting up of hypothetical Terminals A and B. ("True," says Buck: "I plead guilty to the use of hypothesis. Most ideas, including the frequency rate method, so started.")

Let us first examine how Mr. Buck rigged the accident experience of Terminal A and Terminal B to illustrate his claim. Then let us ask ourselves whether it makes a plausible story—whether it jibes with the way accident experience runs in real life.

**Poor-but-honest**

Terminal A, the one with the high frequency and the low severity, has had five accidents in 250,000 miles of operation. Four of these were non-preventable.

Now look at the record of Bad-Guy Terminal B. In one month this terminal had only three accidents, but all of them were 100 per cent preventable. One of these was a fixed object accident, another a mechanical failure, and the third a case of plain reckless driving. Altogether they resulted in a fatality and two personal injuries and accident costs of \$7800. To stack the cards even higher, Mr. Buck gives Terminal B 300,000 vehicle miles of operation, enabling it to walk off with a frequency of 1 as opposed to Terminal A's rate of 2.

Is there anything true-to-life about the experience of these two terminals? Does accident experience run quite this way? Mr. Buck took only the experience of a single month to illustrate his point, even though he knows full well that this is much too limited an amount of exposure on which to base a valid comparison.

(TURN TO NEXT PAGE, PLEASE)

## Better Try Again, Mr. Buck!

Continued from Page 89

### The vagaries of chance

being what they are, almost anything could happen in a given single month to any fleet. But over a period of 12 months, experience would balance out the freaks and result in a more representative distribution of accidents by frequency and severity. It is for this reason that 12 months has become the standard unit of exposure for comparative rate purposes. (Buck: "My original script said a year, not a month. My fault! But the experiences are true to life. I'll risk my experience against Biddle's on that point.")

Back in 1951, Mr. Buck wrote another article for *COMMERCIAL CAR JOURNAL* on what he termed the "pyramid theory" of accident occurrence. The pyramid theory estimates that for every fatal accident, there are 32 permanent impairment injury accidents, 320 disabling injury accidents, and 1920 property damage accidents. The distribution might not be exactly that way, but it would be fairly close. In other words, an analysis of the total number of accidents incurred over a period of time would show a lot more minor ones than severe ones. Accident statistics prove this to be the case.

### Terminal B's accidents are

apparently all taken from the top of the pyramid. In one month and with only three accidents it has killed one person and injured two others. With driving of this kind it is impossible to imagine that Terminal B did not also have a great many less severe accidents—minor accidents which nevertheless must be counted in figuring its frequency rate. Probably it cheated and did not report these minor ones, a practice Mr. Buck claims is quite common.

We hesitate to apply the pyramid theory in trying to project what Terminal B's 12-month accident experience might with reason be expected to be. But we do know that Mr. Buck can't take all the accidents off the top of the pyramid. A most conservative estimate, based on the pyramid theory, would give Terminal B at least 320 less severe accidents during the remaining 11 months. Figure out your frequency rate on that, if you will. It will be high enough to insure that virtue wins out in the end and that Terminal A, not Terminal B, receives the prize.

### The implication

In Mr. Buck's examples is that you can somehow single out high severity accidents for special treatment and thus do a more effective safety job. This runs counter to the hard won convictions of every safety director we know. And it runs counter to what Mr. Buck himself believes, or at least what he believed back in 1951. Quoting from this article, here is what he said then:

"The majority of accident prevention programs manifest great interest in and activity against those accidents 'of a serious nature' depicted at the peak of the pyramid. However, every preventive measure necessary to effectively offset the 'serious' accident is identical with those necessary to eliminate needless chance taking and near misses." (On these points, Buck has this to say: "My interest in the pyramid concept has not lessened. Rather, I seek to assign values somewhat commensurate with the pyramid. We aren't so naive that we rate head colds and cancer on the same basis of severity, nor should we be less realistic regarding accidents. We tend to regard accidents as we do sin—we are unwilling to subscribe to degree. After reading Biddle's triumphant discovery of the unlikely accident experience of Terminal B, I realize that I must have expected a bit too much from my readers. I presumed they would suspect the element of non-reporting of the 'little ones.' I happily will accept Biddle's application of the pyramid estimate since this is exactly what I am trying to do. By my method, 'virtue wins out in the end,' since the pyramid point system assesses high values for those severe ones that cannot be readily hidden. I fail to find in my story any suggestion that I de-emphasize preventive measures which may and should be taken against every accident, regardless of severity.")

### Is the Tic-Tac-Toe system

of rating safety performance actually a reliable yardstick? Or is it full of stretch and give depending upon who is using it?

Instead of counting each accident as one regardless of severity, as in the frequency rate system, the Buck plan gives each accident a point value according to how responsible we were for the accident. For a Non-Preventable Accident, 1 point; for a Divided Responsibility Accident, 2 points; for a Sole Responsibility accident, 3 points.

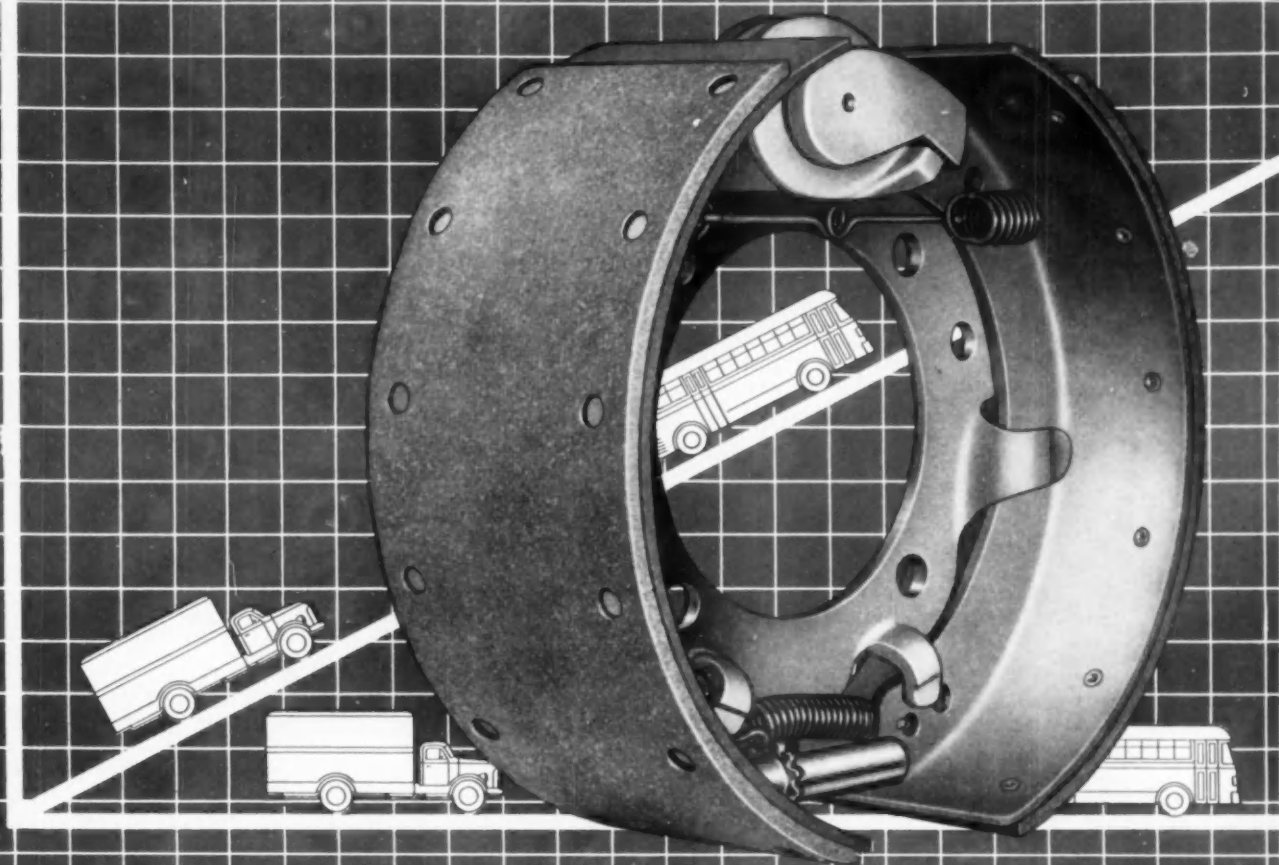
He has given us at least two opportunities to cheat right off the bat. A good many Sole Responsibility accidents can be deliberately misclassified into the Divided Responsibility category without very great powers of rationalization and without being too conscious of chicanery. It has to be a decidedly black and white proposition before a company will admit that it is solely responsible for a given accident. And since the Divided Responsibility category is available, it is fairly easy to find reasons why the other party was at least partially responsible—and that's all you need to knock off 1 point.

And among Divided Responsibility accidents, there are a good many that could be misclassified into the Non-Preventability category if one wants to be reasonable about the whole thing and avoid 1 penalty point at the same time.

### In his attack

Mr. Buck stated with great indignation "we charge against the fleet supervisor accidents which are clearly non-preventable by our drivers." Yet, we see

(TURN TO PAGE 200, PLEASE)



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The Bendix\* Duo-Duty auxiliary brake serves the double purpose of a positive parking brake and an emergency road-speed brake.

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at road speeds should the main braking system, for any reason, fail to work.

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Corrugated tubes in plywood racks permit handling up to 15 loaves at a time during loading and unloading. The new lightweight system increases truck capacity, costs less

## "TUBES"

### Up Bakery Body Capacity 1/3

IT REMAINED for a man from Quality Bakers of America to figure out a better way of delivering bread. And now, after several years of development, scores of bakeries across the nation are using his patent to outfit bread and pastry delivery trucks.

It's a packing system using double-faced corrugated board "tubes" to hold five loaves of bread, units being placed on fir plywood shelves in a systematic arrangement built into the truck. Fleets say they are saving in delivery time, in dead weight, and at the same time are delivering bread in first class condition.

#### Truck Capacity Up 1/3

Bob Thomas, director of transportation for Quality Bakers of America, developed the system, and now Quality is licensing both member and nonmember companies to use this method of tube loading.

Today, about half of the 48 members of the Quality Bakers cooperative are using the tube loading method, while many nonmembers have gone to this improved delivery system.

One member company, New Process Baking Co., in Chicago, states that the new delivery method has increased capacity of their 130-truck fleet by more than one-third and has just about eliminated damage to loaves while they are enroute to retail stores. Company officials report that each new fir plywood rack assembly costs 50 per cent less than the metal tray system it replaced. The corrugated tubes vary from 10 to 14 cents in cost and last as long as six months without replacement.

Advantages of these "Cube-a-Tubes," as they are called, is the fact that after delivery, the tubes can be folded up and stored compactly. Another important advantage is the fact that this shelving saves



Patented by Bob Thomas of Quality Bakers of America, the "Cube-A-Tube" system is now being used by scores of bakery fleets. Picture at right shows installation of plywood racks. Insulating effect of plywood also helps keep bread warm until it is delivered

Below, one of 130 trucks in which New Process Baking Co. of Chicago has installed them



## **Fir plywood racks and corrugated tubes cut dead weight, speed deliveries, reduce loading costs for bread fleets**

up to 350 lb of weight with a conventional 12-ft body installation.

### **Warmer Bread, Faster Handling**

Here is how the system works. As bread comes from the ovens and is wrapped, a worker slides it into the cardboard tubes, five loaves at a time. These tubes are placed in the fir plywood bins which extend along the length of each side of the truck, leaving an aisle down the middle in which the driver can move about while selecting bread for delivery to each store. In making deliveries, the driver handles only three tubes at the same store into which he formerly had to carry 15 individual loaves.

At first, New Process outfitted a dozen trucks with the plywood-rack-and-corrugated-tube assemblies. Edmund Kutchins, vice president of New Process, says that they soon found they had eliminated prob-

lems inherent in other systems. Bread that stands on cold metal shelves gets cold quickly in winter. Stacked in the plywood rack assemblies, loaves are now actually insulated. The bread may stay in the tubes all day long, but it will still be warm when it gets to the dealer.

### **Entire Fleet Remodeled**

Donald Alexander, fleet superintendent of New Process, used high density overlaid fir plywood to outfit his trucks. This is a conventional panel of fir plywood except for its surface, which is flint-hard and glass-smooth. This surface treatment is achieved at the plywood mill by fusing a resin impregnated fiber to the plywood under heat and pressure so that it literally becomes a part of the wood. This material forms the backing, vertical partitions, and shelves of the rack assembly for each truck. The entire set of bins is held in place by a welded framework of angle irons. All the work was done in the company's own maintenance shop.

From 6 to 10 sheets of 4 x 8 ft plywood were used in each truck. A ½ in. thick layer of insulation was set against the interior truck wall. Over this was placed the plywood bin backing. This backing, the shelf bottoms and the partitions all are of ¾-in. fir plywood.

Shelf corners and other brackets were fashioned  
(TURN TO PAGE 150, PLEASE)

# Seek Renewal Early FOR SHORT-TERM RIGHTS . . .

**Current ICC policy may cause headaches for for-hire truck operators**

**V**ARE YOU operating under so-called "limited term" rights from the Interstate Commerce Commission? If so, it might be a good idea to file application for renewal now, instead of waiting until the term expires.

Why? Comment from the ICC itself pointing-out that because of the time involved in hearings and rendering a decision, an early start toward renewal would be wise if you want to avoid any break in service. It appears that the Commission is using limited term operating authorities to . . .

- Enforce its safety regulations.

- Avoid time-consuming revocation and suspension procedures.

Actually, relatively few carriers have had to deal with limited term operating authority so far. Six months ago, if you had asked the question "What are 'limited term' operating authorities?" not more than 1 in 1000 motor carriers could have answered it. This, in spite of the fact that the ICC has been issuing this type of authority since the passage of the Motor Carrier Act in 1935.

## Four Types of Rights

In effect, the ICC now grants four types of operating rights.

- Permanent—basic authority to render a specified service granted either after hearings as outlined in the IC Act or stemming from the "grandfather" clause in the Motor Carrier Act.

- Temporary—authority granted when there is an immediate and

urgent need for service and no carrier presently offering the service. Such authority may be obtained from the Commission under Section 210a of the IC Act. Its length of time is limited to not more than 180 days.

- Limited Term — authority granted by the ICC to a carrier operating another carrier's rights under lease. It normally expires when the lease expires or is converted to permanent authority if the Commission approves purchase of the leased rights.

- A second variety of limited term operating authorities was created by the Commission in September, 1955. It created certificates of public convenience and necessity for a number of carriers for transportation of explosives and am-

Middle of last month, a Senate Subcommittee on Surface Transportation held hearings on S1458, a proposal to issue operating rights for a specific period. American Trucking Assns. General Counsel James F. Pinkney appeared in opposition to the bill, said that limiting a truck line's operating authority to a specified term would . . .

- Create unstable and uneconomic conditions in the trucking industry.
- Greatly aggravate the already serious problem of motor carrier financing.

- Make it difficult for a carrier to obtain new business, hold business which it had obtained and to staff its operation.

- Lead to costly proceedings to obtain new certificates upon termination of the old.

Pinkney supported S1460, a bill which would permit the Interstate Commerce Commission to extend grants of temporary operating authority beyond the present statutory 180-day limit.

For background on this current problem of limited term operating authority, **COMMERCIAL CAR JOURNAL** presents this timely article by Transportation Professor Charles Taff of the University of Maryland.

munition, limited them to a period of five years from the date of the order. It is this last group that we are concerned with.

## Suspension Not Effective

The Commission has required that safety be paramount in the handling of explosives and that extraordinary care in all safety matters be undertaken by the carrier. Where these conditions have not been met, it has instituted suspension and/or revocation proceedings against such carriers. However, under the suspension and revocation provisions which are contained in the Act, it is difficult to suspend or revoke operating authority.

By issuing limited-term operating authorities to explosives car-

(TURN TO PAGE 96, PLEASE)

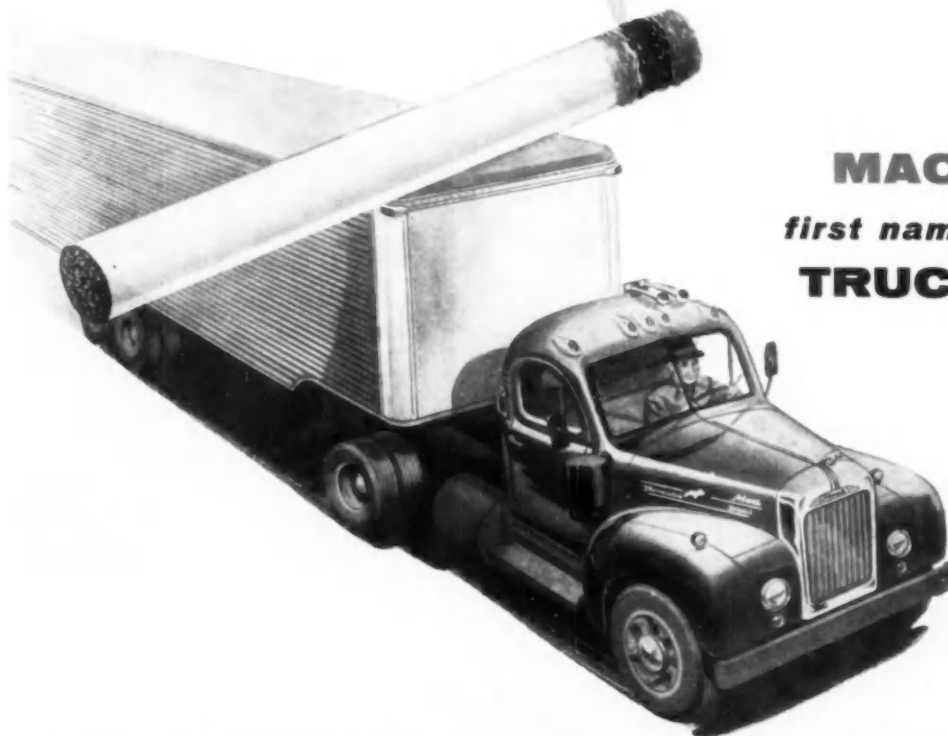
# ONLY THE Driver Smokes ON A MACK DIESEL

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gines—turbocharged or naturally aspirated—give the utmost in performance with longer life, smoother running, greater engine flexibility and maximum fuel savings.

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## Limited Term Operating Authority

Continued from Page 94

riers, the Commission may review the carrier's safety record when and if renewal of such operating authority is sought. This seems to be the principle reason for issuing the limited-term operating authority to explosives haulers. In addition, the Commission felt that con-

ditions might change so that while service might be necessary now, the need for such service might end sometime in the future.

### The Renewal Problem

The ICC has been hampered by the lack of adequate field personnel

in the Bureau of Motor Carriers in its enforcement of its safety regulations. And the entire Commission has a backlog of work. However, the present policy of issuing limited-term operating authorities will require periodic filing of new applications which will mean much extra work for both the carrier and the Commission.

There is no indication that the proof necessary to secure a certificate of public convenience and necessity with a limited duration is any less than that which is necessary in applying for permanent certificates. To all appearances, the requirements are the same.

Of course, anyone familiar with the competitive aspects of hauling explosives and ammunition will realize that when a carrier applies for a renewal of its limited-term operating authority, its competitors will be there in force to protest such a renewal. Then it is up to the applicant to prove once again that public convenience and necessity require the granting of the authority for which it is applying. This is an expensive and time-consuming matter and one in which the carrier is uncertain of the outcome.

END

Please Resume Reading Page 100

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**SAFER**—all body overhang is eliminated since the load is lifted from the front—greater stability is assured. When in use, this hoist has proved to be more than 95% safer than other types of hoist installations.

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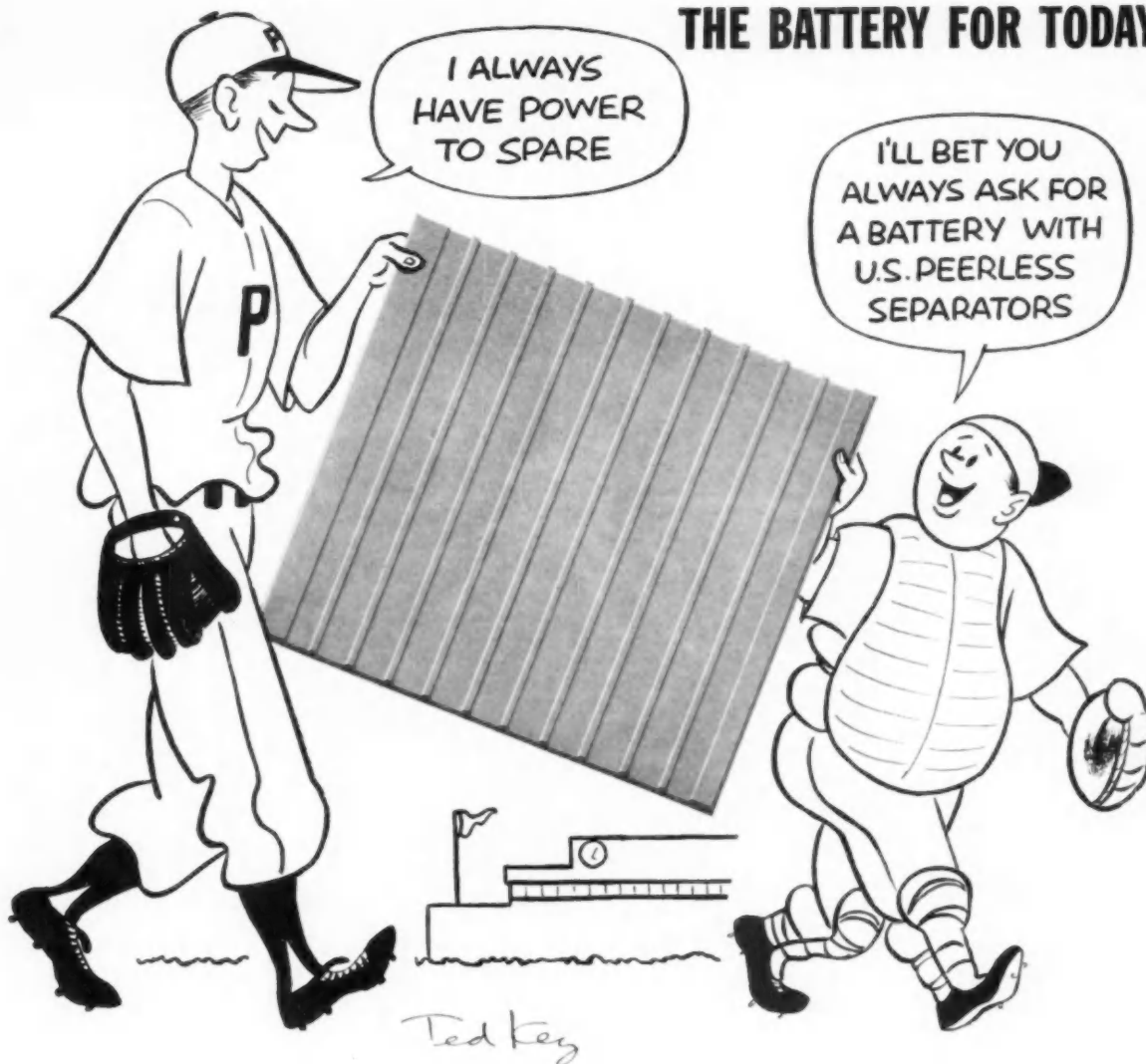
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This radar-controlled sign lights up automatically when you're going too fast with the legend, "SLOW DOWN YOU ARE SPEEDING." A radar wave reflected from the speeding car returns to a control box instantaneously figuring the speed and tripping a relay to light a warning sign. The system needs no operator and can be installed in a matter of 20 min anywhere.



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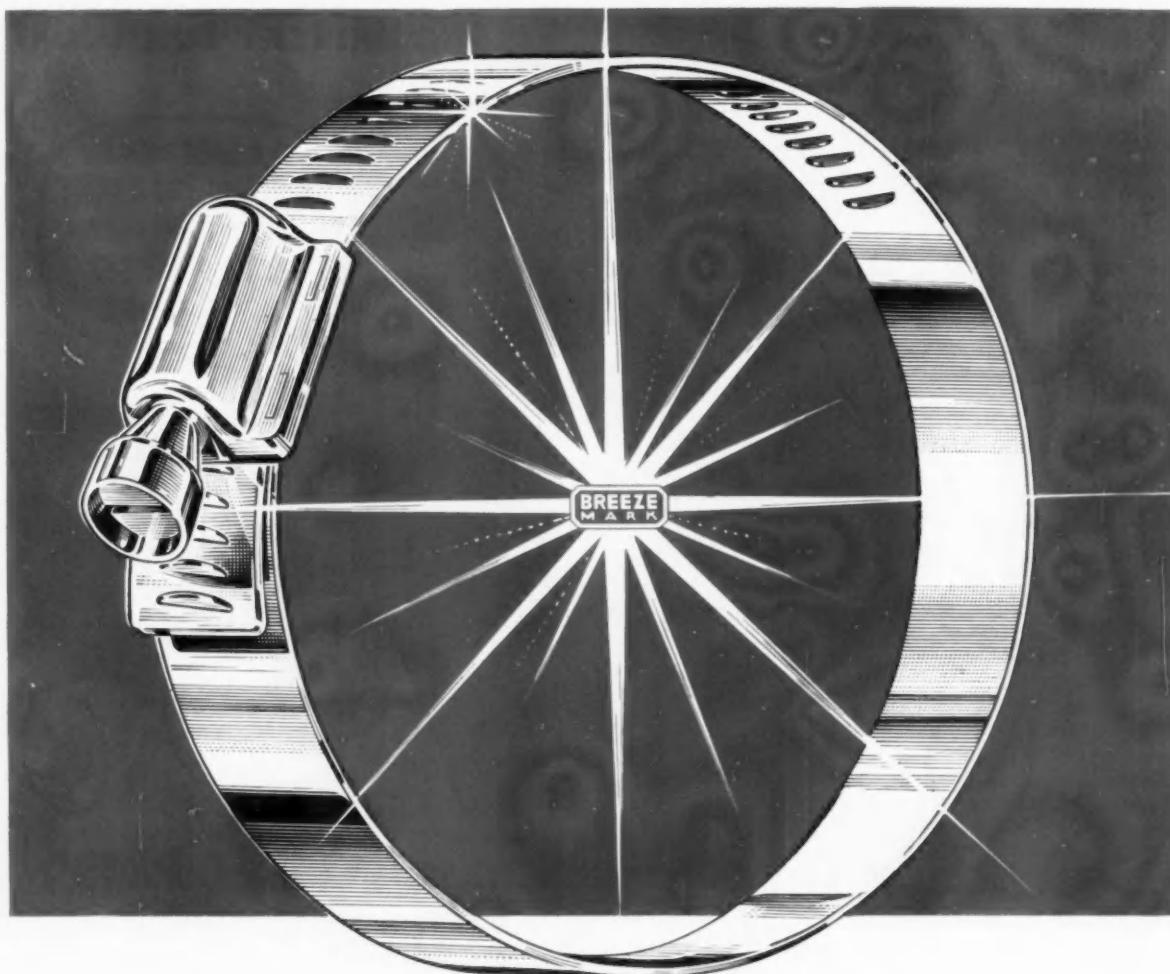


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# United States Rubber



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special discounts. Which pays off best? Compare the worm gear construction. Note that AERO-SEAL worms don't wobble. Look at the special rugged interlocking feature that makes AERO-SEALS hold tight — no spot welding. Note the precision gear that applies uniform pressure — does not pinch hose. Stainless steel bands, complete size range. Ask your jobber!

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BCA's specialization in the production of ball bearings for automotive use results in bearings of perfect fit for easier installation... and exceptional performance. BCA differential, clutch, transmission, generator and wheel bearings—available through most of the leading bearings suppliers—are used as original equipment in leading trucks, buses, cars and tractors. Performance records of BCA ball bearings prove their definite advantages in replacement service.

### Three times 'expected' life

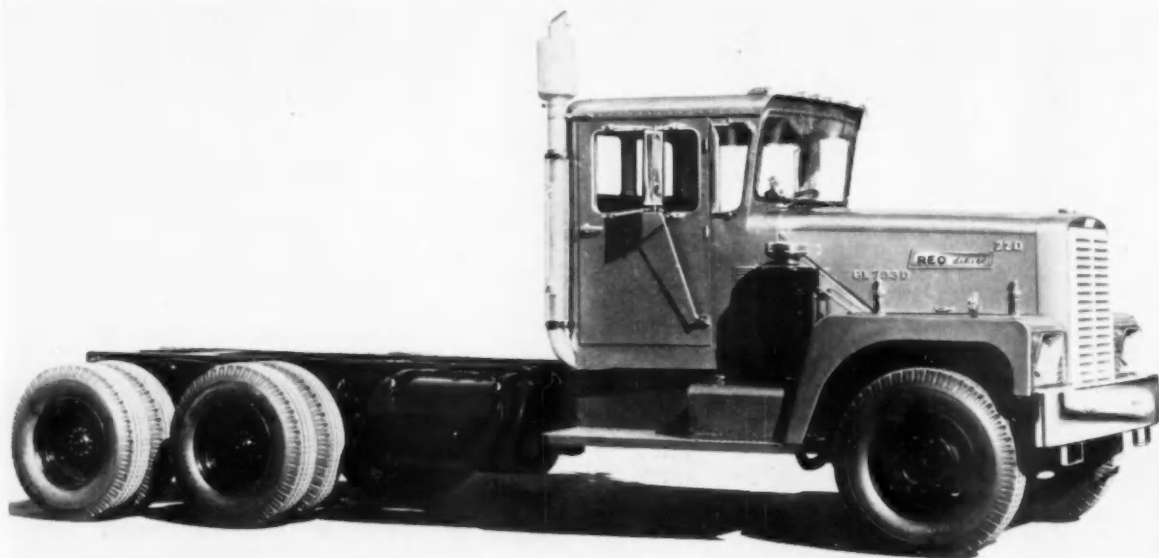
Automotive engineers expect clutch bearings to be good for 70,000 to 80,000 declutchings. Tests prove BCA clutch bearings are good for more than 200,000 declutchings at speeds equal to 50 or 60 miles per hour.



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bearings**

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DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC.





Reo's new B-Series offers sixteen tractors and trucks with a choice of nine Cummins diesel engines. Tractors are rated up to 85,000 lb GVW



Dual headlights are standard equipment, single lamps are optional. Individual sealed beam units may be replaced easily if bulb burns out

## REO OFFERS NEW

**V** REO MOTORS' NEWEST series of heavy-duty diesel trucks and tractors makes its debut this month. Known as the B-Series, it includes:

- Three 4 x 2 trucks;
- Four 6 x 4 trucks;
- Three off-highway trucks;
- Six tractors.

The single-axle units are designed for GVW's up

to 42,000 lb; tandem axle units are rated at up to 63,000 lb GVW.

Tractors have GCW ratings of 65,000 to 85,000 lb.

### Nine Cummins Engines

All models are standard with the front axle in a forward position for states where bridge formulas apply. An optional front axle position is available for



**New heavy-duty line features dual headlights,  
"Panoramic" vision, nine engines, catwalk fenders**

Catwalk fenders with diamond safety treads permit convenient servicing of the engine. Under-hood space has been increased to further ease servicing



## **DIESEL SERIES**

operators who want maximum front axle loading and who are not required to comply with a bridge formula.

The B-Series offers a choice of nine Cummins diesel power plants, rated at from 175 to 335 hp.

Available engines are: HR-6-B; HRF-6-B; NH-6-B; NT-6-B; NTO-6-B; NHS-6-B; NHRS-6-B; NRT-6-B; NRTO-6-B.

### **New Cab Design**

Reo is proud of the newly-designed cab on the B-Series. Company officials claim it's the most advanced cab in the heavy-duty field.

A top-forward windshield has been used to give the driver "panoramic" vision, with a full view ahead and on both sides without distortion or obstruction. An over-hang above the windshield helps to eliminate glare.

Instruments are easily visible. Lights are controlled by toggle switches. The cab floor is flat and without a "doghouse." The Bostrom "Level Ride 80" driver's seat is standard equipment.

Cabs are available in either steel or lightweight aluminum. Lightweight models are designated as the BL-series, and are available on either the four or six-wheel chassis. Some magnesium components are used to reduce weight on the lighter models.

### **Dual Headlights**

Reo is the first truck manufacturer to introduce dual headlights. The B-Series carries the twin units as standard equipment. Conventional single-lamp systems are available as an option.

The twin lamp unit is manufactured by Auto-Lite. It is encased in a single housing for easy installation or removal. If a filament burns out, individual sealed beams can be replaced.

Main advantage of the twin headlight system is that it provides greater seeing-distance on the lower or passing beam and does so without glare to approaching cars.

### **Catwalk Fenders**

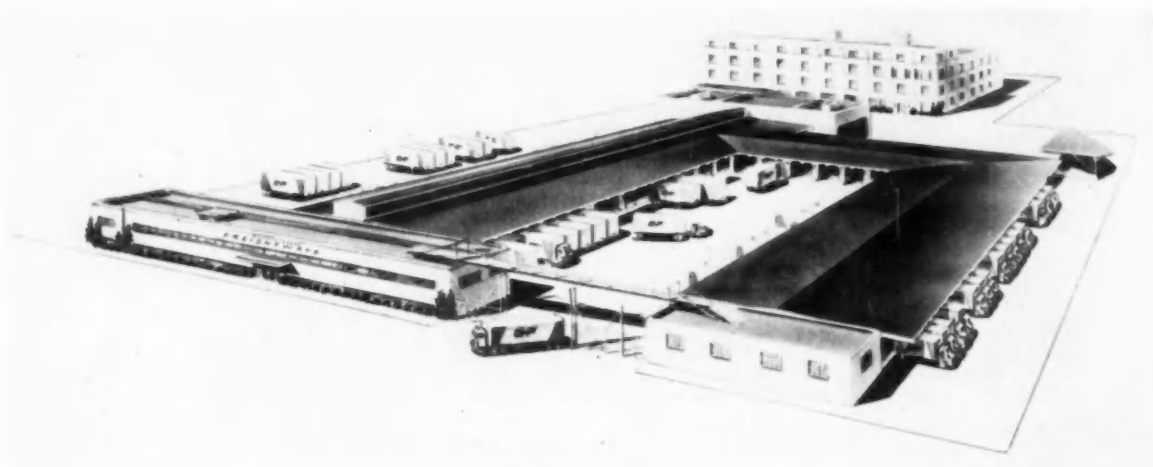
All B-Series models have reinforced, "catwalk" fenders. Fender tops are level, with diamond safety treads. They are sturdy enough to provide a platform from which the driver or mechanic may quickly and easily reach the engine.

The level surface of the fender provides a convenient place for tools so that they may be within easy reach while a man is working on the engine.

Added ease is provided for the service man by the large under-hood area which gives him room to work.

### **Many Options**

More than 8000 possible combinations of optional components provide the B-Series with the flexibility to meet the needs of operators who want heavy-duty over the road units as well as those who require custom-tailored equipment for off-highway jobs.



## MODERN TERMINAL Is Designed for LTL Freight

**Consolidated Freightways says it has improved service by at least 30 per cent**

**V** CONSOLIDATED FREIGHTWAYS' new Portland, Ore., terminal is designed for faster, more economic handling of less-than-truckload shipments.

"Despite the fact that it has not yet reached its full potential," says Terminal Manager Bernie Janisch, "an improvement of at least 30 per cent in service already has been recorded."

### Load Adjustment Dock

One unique feature of the new facility is the triangular platform termed a "load adjustment dock." Load shifts required in over-the-road equipment to meet weight limit requirements can be made here without breaking-up the combination—quite often a tractor, semi-trailer and full trailer train.

Another feature is a special offset dock at which van doors can be opened after the equipment has backed into the bay, eliminating delay caused by stopping to do so beforehand.

Here are some of the other time-saving, built-in advantages of the new terminal:

- A staggered pattern used in assigning over-the-road equipment and city vehicles to the various bays facili-



**"Load adjustment dock" permits freight shift between trailers to meet weight limit requirements without breaking up the tractor and two semi-trailer train**

tates rapid transfer of freight from one door to another and provides for better utilization of carts.

- Ramps provide easy access to the dock from ground level for autos to be unloaded and for mobile equipment such as fork lifts and tractors.

- All bays are served by more than three miles of pneumatic tubing linked to the office and billing department, and by a continuous cart conveyor line 1700 ft long which is powered by two separate motors.

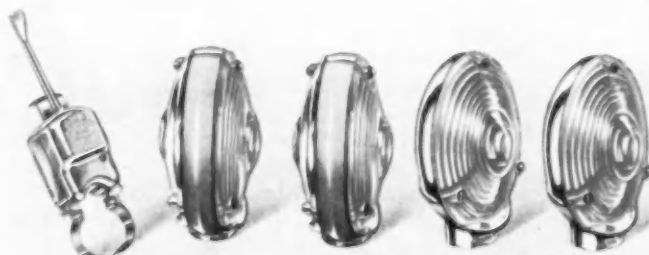
- Concrete slabs, which vary in size according to the type of equipment each bay handles, eliminate the need for blocks under the landing gears of semis.

CAREFUL FLEETOWNERS

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*they equip their  
vehicles with the  
new Signal-Stat 5-in-1  
SIGFLARE system!*



**THE NEW 5-in-1 SIGFLARE SYSTEM FOR  
ALL AROUND PROTECTION...ALL THE TIME!**

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1. the most powerful Class A-Type 1 directional signals with positive pilot action to indicate system is functioning properly.
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4. two tail lights as powerful as the law allows.
5. automatic tail light control for far more effective turn signals at night.

All this, plus many other exclusive Signal-Stat features, makes the Sigflare system a "must" for careful fleetowners. Don't stick your neck out; see your jobber or write for new complete guide to Signal-Stat safety lighting equipment TODAY!

# Fawick Offers Two Versions of GIRLING BRAKE . . .

**Emphasis is on interchangeability. They  
can be air, vacuum or hydraulic actuated**

FAWICK BRAKE Division, Fawick Corp., is now promoting the adoption of the Fawick-Girling brake system on trucks, trailers and buses. It has been available on Clark Equipment's new trailer axles (Aug. '56, page 96, and Sept. '56, page 92).

The brake is available in two distinct types—(1) the 2LS/2P model providing two leading, self-energizing shoes for both forward and reverse, and (2) the 2LS/1P model with two leading shoes for forward braking and one shoe leading, one shoe trailing for reverse.

## Brake Operation

Both halves of the 2LS/2P brake are identical (Fig. 1 shows only half for clarity), and both shoes operate in the same way. Brake shoes are fitted with two angle pivots or "bell cranks" and a strut connecting them. Shoes are held in "off" position by two tension springs which hold them against two inclined abutments. Without a "pinned" position, they are free to slide along the face of the abutments.

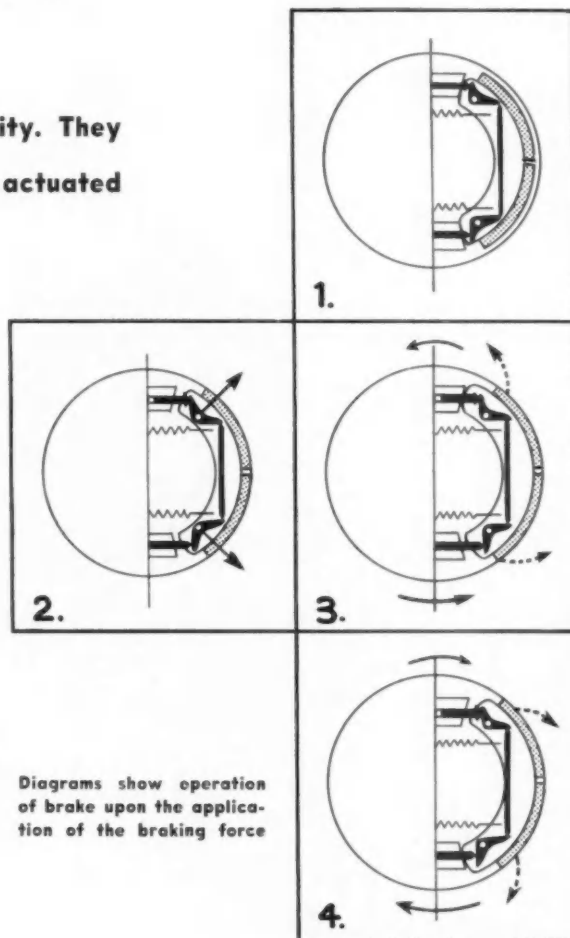
In operation, the upper bell crank receives the push with the lower bell crank being stopped by the adjuster. As the push overcomes the spring tension, the bell cranks pivot to force the brake shoe and lining against the brake drum. (This operation is diagrammed in Fig. 2 for a stationary brake drum.)

In forward braking (Fig. 3), rotation of the brake drum pushes shoe down, bringing the lower end of the shoe in contact with the adjustment stop to maintain even lining contact. The movement is just the opposite in the case of reverse braking (Fig. 4), thus providing leading shoe action in both directions.

## Interchangeability Improved

The 2LS/1P is of exactly the same basic design except for the simplification of parts due to the fact that the shoe at the left is of trailing type. Hence this shoe is not fitted with bell-cranks or pushrod. Otherwise the features are all the same.

The new brake system aims at one standard axle mounting for front axles and one standard mounting for rear axles and trailer axles. This makes for com-



Diagrams show operation of brake upon the application of the braking force

plete interchangeability of standard brakes for the entire gamut of axles and vehicles.

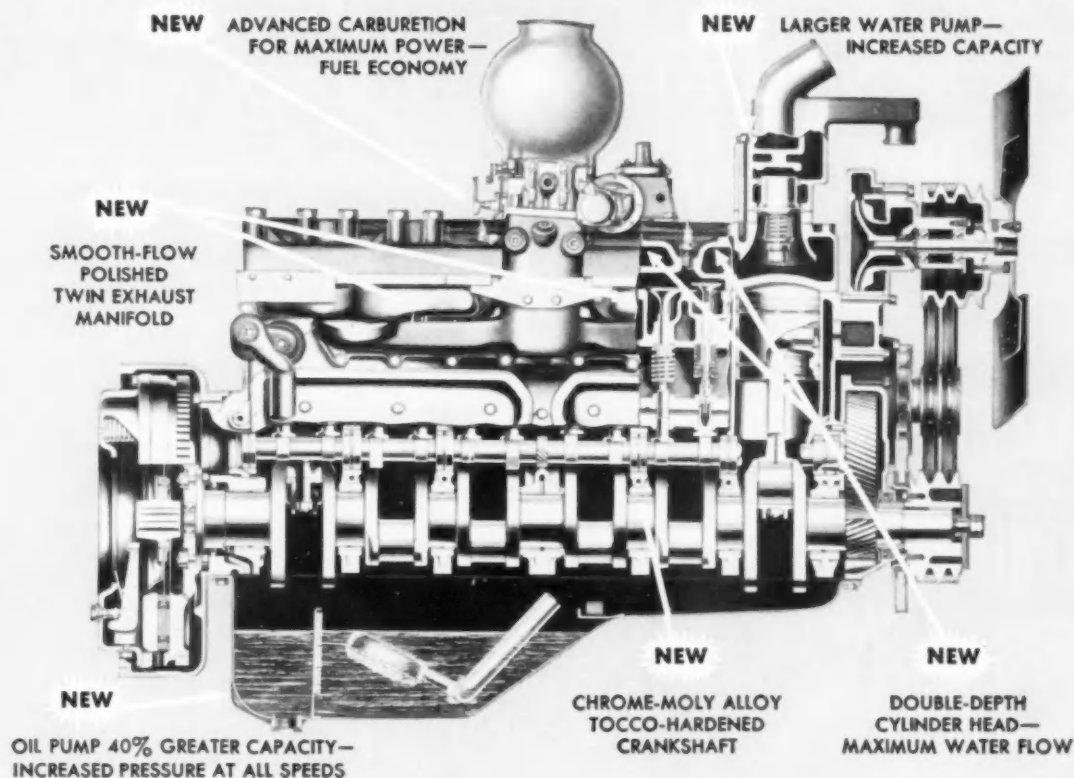
## All Types of Actuation

There is a standard foundation brake for all rear axles, and one for all front axles. Regardless of the type of actuation—hydraulic, air, or vacuum—and regardless of brake shoe width, the foundation brake is standard and interchangeable. Actuation systems are so designed as to be interchangeable on any foundation. In the case of air actuated rear brakes, there is provision for emergency hand brake operation, making for an extremely simple installation that can eliminate transmission or propeller shaft emergency and parking brake systems.

(TURN TO PAGE 106, PLEASE)



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**WHITE MUSTANG**  
 MORE POWER PER POUND OF ENGINE WEIGHT

You can have the efficiency, rugged performance and high earning power of the mighty Mustang—for your replacement needs. Factory engineered installation kits make it easy to install a Mustang in most trucks—regardless of make or model!



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**THE WHITE MOTOR COMPANY**  
 Cleveland 1, Ohio



From left—E. V. Degraw, assistant manager, truck tire sales dept. Goodyear Tire & Rubber, Akron, Ohio R. D. Adams sales director, Steam Cleaner. Dyna-



meter & Chemical Div., Clayton Mfg. Co., El Monte, Cal. R. J. Kreusser, fleet sales mgr., Willys Motors, Toledo, Ohio



## Fawick-Girling Brake

Continued from Page 101

The actuation attachment is a standard, interchangeable, self-contained unit which is bolted onto the torque plate. The hydraulic cylinder also has a mechanical link for parking brake actuation for rear axle brakes. The point is that any of the three types of actuation can be attached to the standard foundation, and they can be just as readily exchanged or replaced. Fawick offers a group of close-coupled arrangements for air diaphragm actuators to take care of various clearances.

### Shoes and Linings

Getting to some of the details, brake shoes are interchangeable in either cast or fabricated type, fabricated shoes of lightest design being feasible with this system. Linings are the same for both shoes and it is claimed that linings can be used more effectively due to the sliding shoe principle. Standard commercial linings are acceptable, either riveted or bolted.

It is claimed that lining wear is uniform on both shoes. In addition, there is maximum utilization of lining thickness due to the unique type of wear pattern. In essence, it is claimed that more brake applications are possible with a given lining before relining is necessary.

Another advantage claimed by Fawick is that of using lighter brake drums. The 2LS principle is said to result in uniform drum loading because both shoes do equal work. Brake drum distortion is said to be reduced since the shoes are free to slide and can conform better to drum contour. The combination of sliding shoes with equal shoe loading results in maximum lining contact, thus reducing high temperature and high load areas that contribute to heat checking.

Adjustment has been simplified through the use of a single point adjustment mechanism. It returns actuation to minimum travel, permits full lining wear.

END

Please Resume Reading Page 110

# GROTE'S Slim and Trim

## GIANT STOP AND WARNING LAMPS



Grote's new line of thin, lightweight warning lamps gives you:

- **Greater safety**—The big 7" Bull's-eye and concentric circle lens pattern with 21-CP bulb is designed to give a brilliant high intensity warning—night or day.
- **Greater economy**—One-piece lens and rim construction means easier and faster bulb replacement. Plastic lens is fade-proof, shatter-proof. Lamp is sturdily made for years of dependable service.



- **Greater flexibility**—Available with STOP or plain lens for universal bracket or stud mounting, flush mounting or as dual faced emergency lamp; can also be furnished with double filament bulb for combination use as giant stop, tail and directional signal lamp.

GROTE

QUALITY SAFETY  
ACCESSORIES



Lamps • Directional Signals • Reflectors • Flares • Mirrors

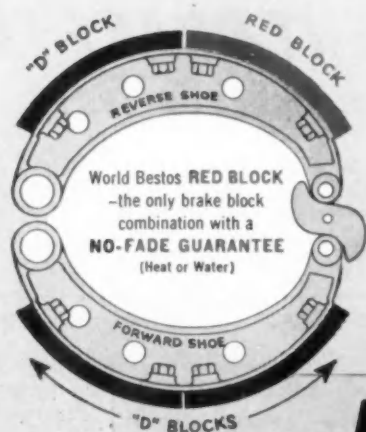
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World Bestos **RED BLOCK**  
for **GREATER SAFETY...**  
at lower brake cost per mile"**



Mr. Harold Ward, President, and  
Mr. Alvin Fitzsimmons, shop superintendent,  
WARD TRANSPORT, Inc., Pueblo, Colorado



**RED BLOCK** pays for itself many  
times over in greater safety, more mileage  
. . . and savings on drum replacement.  
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SAVE!!!**

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***REDUCE DOWN TIME  
and maintenance!***

***PREVENT BRAKE FADE  
in emergencies!***

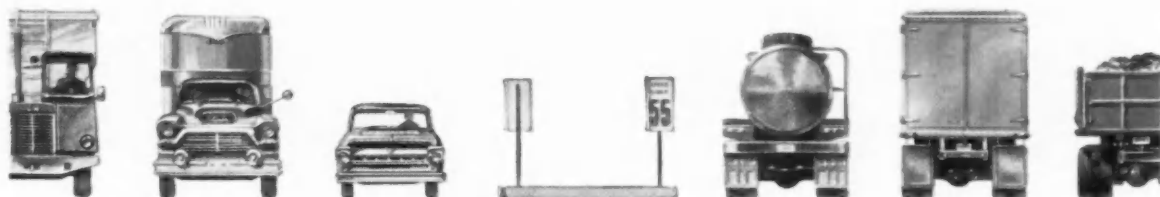
***PROTECT EQUIPMENT  
with safe stops!***

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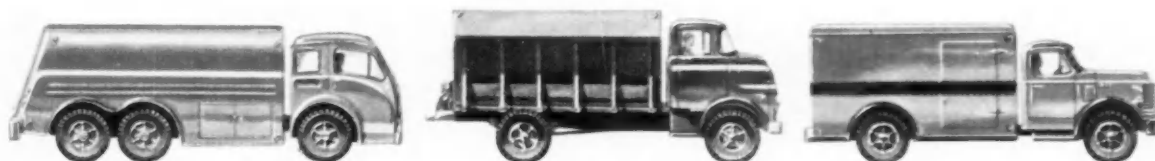




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or truck down a trail



you can't buy a truck tire that costs less  
per mile than **Firestone**

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Tire & Rubber Company

OPERATOR RECORDS PROVE

Firestone Tubeless Truck Tires give extra mileage on original treads, take extra retreads, reduce road delays, cut maintenance costs to a minimum.



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COMMERCIAL CAR JOURNAL, June, 1957

109



Engine cooling system liquid circulates through tunnels in copper brake shoe lining, dissipates the heat generated when the brakes are applied

## Water-Cooled Brake Reduces Fade • • •

**Brake lining connects to engine cooling system to stop heat build-up**

**V**RAYBESTOS DIVISION, Raybestos-Manhattan, Inc., has developed a liquid-cooled brake. In passenger car tests, says Raybestos, there was no heat build-up. For example, after a series of repeated stops, temperature of the new brake was 325°F, as compared to around 700°F for present systems.

Advantage, of course, in elimination of heat build-up is a drastic reduction in (1) brake "fade" (loss of frictional stopping power of the lining) and (2) in brake pedal "washout" (heat expansion of drums).

### "Two-Lining" Brake

Liquid from the engine cooling system is channeled through tunnels in copper linings fused to a variation of conventional brake shoes. The copper linings, upon brake application, contact conventional brake drums lined with a special Raybestos friction material.

After five years of tests, Raybestos says indications are that the new linings with the new system will be good for better than 100,000 miles, about three times normal passenger car lining life.

Raybestos is looking into its development as a band brake, as a disc brake and in clutches. Wagner Electric Corp. is carrying on field testing of the system for various brake applications.

Promotion is in the works to have it offered as a factory-installed option and also to make it available in kits for fleet shop conversions. Two brake specialists at the Raybestos factory installed it on a passenger car in about three hours.

The maker is reluctant to estimate the price for the liquid-cooled brake, says it is "surprisingly inexpensive." A good guess is that the cost will be under \$100 per vehicle.

Two fields being investigated for the new system include:

- As a solution to the critical problem of heat build-up in trucks.
- As a means of obtaining effective brakes with the smaller diameter wheel advocated by passenger car design engineers.

## HOW BELL SYSTEM COMMUNICATIONS SERVE THE TRUCKING INDUSTRY



### "Our bills arrive hours—even days—ahead of shipments"

*A word on private line teletypewriter service by Robert S. Carter, Executive Vice President, Interstate Motor Lines*



Interstate Motor Lines serves shippers between the West Coast and Chicago, travels both long-haul and short-haul routes across 4700 miles of roads. Headquarters of the company is in Salt Lake City, Utah.

"Any one of our 5000 shippers can telephone any of our 19 terminals and get tracing information within minutes," says Robert S. Carter, Interstate Motor Lines.

Bell System communications make that possible for the Salt Lake City firm. "Every freight bill is prepared as teletypewriter page copy at the terminal of origin," says Mr. Carter. "A punched tape is made at the same time. Then, each morning, all freight tapes are relayed through Salt Lake City to destinations. That way, bills arrive hours—even days—ahead of shipments. And our shippers can get immediate tracing information."

Interterminal teletypewriter service also permits scheduling of loads and work assignments in advance. Accounting department gets copies of freight bills at the same time.

***Bell System communications can work profitably for you. Call your Bell Telephone business office. A representative will gladly discuss your requirements.***

#### BELL TELEPHONE SYSTEM



PRIVATE LINE TELEPHONE • PRIVATE LINE TELETYPewriter • DATA TRANSMISSION SYSTEMS

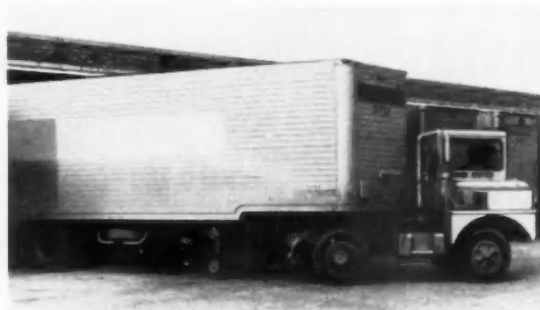
CHANNELS FOR: REMOTE METERING AND CONTROL • TELEPHOTOGRAPH • CLOSED CIRCUIT TV

## New FWD Trailer Spotter Has Dual Control System

A NEW, highly maneuverable vehicle for spotting trailers around congested terminal areas or for "Piggy Back" loading and unloading has been introduced by Four Wheel Drive Auto Co., Clintonville, Wis.

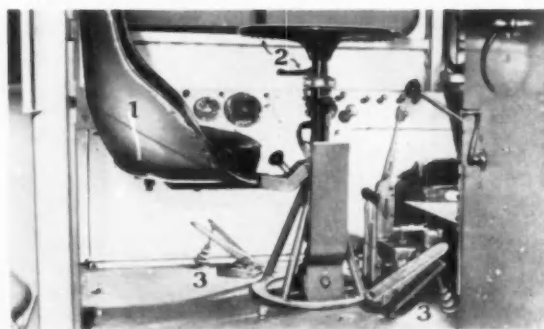
Named the Trailer Spotter, it features two sets of accelerator and air brake pedals, a driver's seat which swivels around a vertical steering column in the center of the cab, and front and rear axles which may be turned separately or simultaneously. The 106-in. wheelbase unit has three speeds in each direction, with a top speed with load of 27 mph.

Front wheels are guided by a single steering wheel, with a control lever on the steering column to control the rear wheels. There is power assist for steering.



The driver may hook up, move and unhook trailers without getting down from the cab. This is made possible by a hydraulic elevating fifth wheel and a rear door in the cab which opens on a small platform from which he can make the air hose connections.

The Trailer Spotter is powered by a 165-hp, RD-372 engine, can handle kingpin loads up to 26,000 lb.



## Coldmobile Milk Reefer Is Self-Contained Unit

A UNIQUE new mechanical refrigeration unit, designed specifically for door-to-door retail milk trucks, has been developed by the Union Asbestos & Rubber Company's Coldmobile Division.

The new unit, is a compact  $\frac{3}{4}$  horsepower, self-contained package featuring a completely hermetically-sealed system, including the evaporator, condenser and compressor.

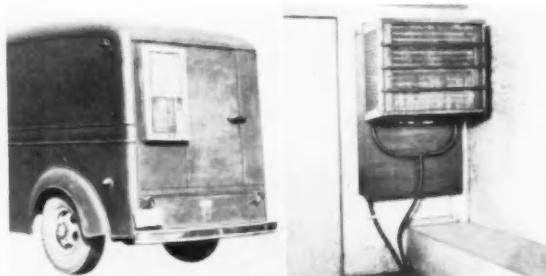
Power is supplied by an A.C. generator mounted under the hood that operates when the truck is running.

### Adjusts to Engine Speed

A variable speed control increases the generator's output as the motor speed decreases, thus giving a constant flow of power to the unit.

At dockside or in a garage, the driver simply plugs into a single-phase 220 volt outlet to keep the "unit" operating.

It is mounted in a small opening cut in either the rear



or side panel of the body and can be easily installed in a relatively short space of time on most vehicles. A constant predetermined temperature inside the body of the truck is maintained by use of a thermostat.

Defrosting is automatic. The evaporator fan continues to run when the unit cycles off and the flow of warmer air through the coil melts off ice and frost which drains away.

Use of the unit on dairy trucks, eliminates a number of problems including storage of ice, equipment needed to crush it. It also facilitates the loading and unloading of trucks. In addition, truck bodies are not subjected to the corrosive effects caused by melting ice.





Right! This new MoPar "Multi-purpose" Piston Ring Set is ideal for all conditions . . . can be used in new or rebored cylinders and in cylinders with taper wear. You put less into inventory, save time in doing re-ring jobs. And this new set offers—

(1) Less ring wear. (2) Less cylinder wear. (3) Long life, with full chrome plating on top compression and oil control rings. (4) Simplified installation.

Order these new "Multi-purpose" sets now from your MoPar wholesaler or your Plymouth, Dodge, De Soto, Chrysler, Imperial or Dodge Truck dealer!



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Yes! Send me the handy Piston Ring Chart D-16122

Name

Address

City  State

## Autocar's Big New Dumper Has Locomotive-type Engine

A 600-hp diesel rear dumper for off-highway use—said to be the most powerful single-engine truck in the industry—has been developed by Autocar Division, White Motor Co., Exton, Pa.

Engineered for 40-ton payloads, it will travel up to 33 mph. It is powered by a 12-cylinder, V-type turbocharged Cummins diesel. This engine has previously been used only in locomotives and as a stationary power plant. It is rated at 600 bhp at governed speed of 2100 rpm.

### 27-Cu-yd Body

The new dumper is designated as the AP-40 and is the third model in the AP line to be introduced since last year. It is more than 13 ft high, 31 ft, 10 in. long and is equipped with a 27-cu yd body.

Adaption of the engine to the AP-40 was made possible by recent development of a transmission, the Fuller R-1550, rugged and flexible enough to efficiently utilize the power developed.

Another engineering achievement is an all-welded, box-construction frame of one-inch carbon steel designed to



resist the torques encountered under severest off-highway conditions.

An offset-mounted cab, engineered for driver safety and comfort, has the adjustable steering column introduced in the AP-25. Set-back, wide-track front axle provides maximum maneuverability.

The AP-40 drives on all four wheels in the tandem rear. If either set of wheels loses traction, an air-powered lock applied on an interaxle differential by the driver from the cab, blocks out torque loss, permitting the other axle to continue driving.

Gross weight of the AP-40—with 40-ton payload—is 85 tons.

## Diamond T Lightweight Unit Is Rated for Heavy Duty

RECENTLY introduced by Diamond T Motor Car Co., Chicago, a new lightweight unit designated as Model 831, weighs approximately 9000 lb, has a GVW rating of 60,000 lb and up and a GCW rating ranging up from 76,000 lb.

Power unit is the Hall-Scott 590, available for either gasoline or LP Gas operation. Both are six-cylinder en-



gines with 5 in. bore and 5 in. stroke. The gasoline engine develops 239 bhp at 2800 rpm governed speed, while the LP Gas unit develops 256 bhp at the same governed speed.

### 5-Speed Transmission, 2-Speed Axle

Included in the standard specifications with the gasoline-powered 831 are a 15 in. clutch and the Spicer 6452 five-speed transmission, which has direct drive in fifth. The same transmission is used on the LP Gas 831, although a Spicer 14 in. 2-plate clutch is standard on that version.

Standard rear axle on the gasoline 831 for highway service only is the Eaton 18803, a two-speed axle rated at 22,400 lb. For others than highway tractor service with a GCW of appropriate capacity, heavier rear axles are required.

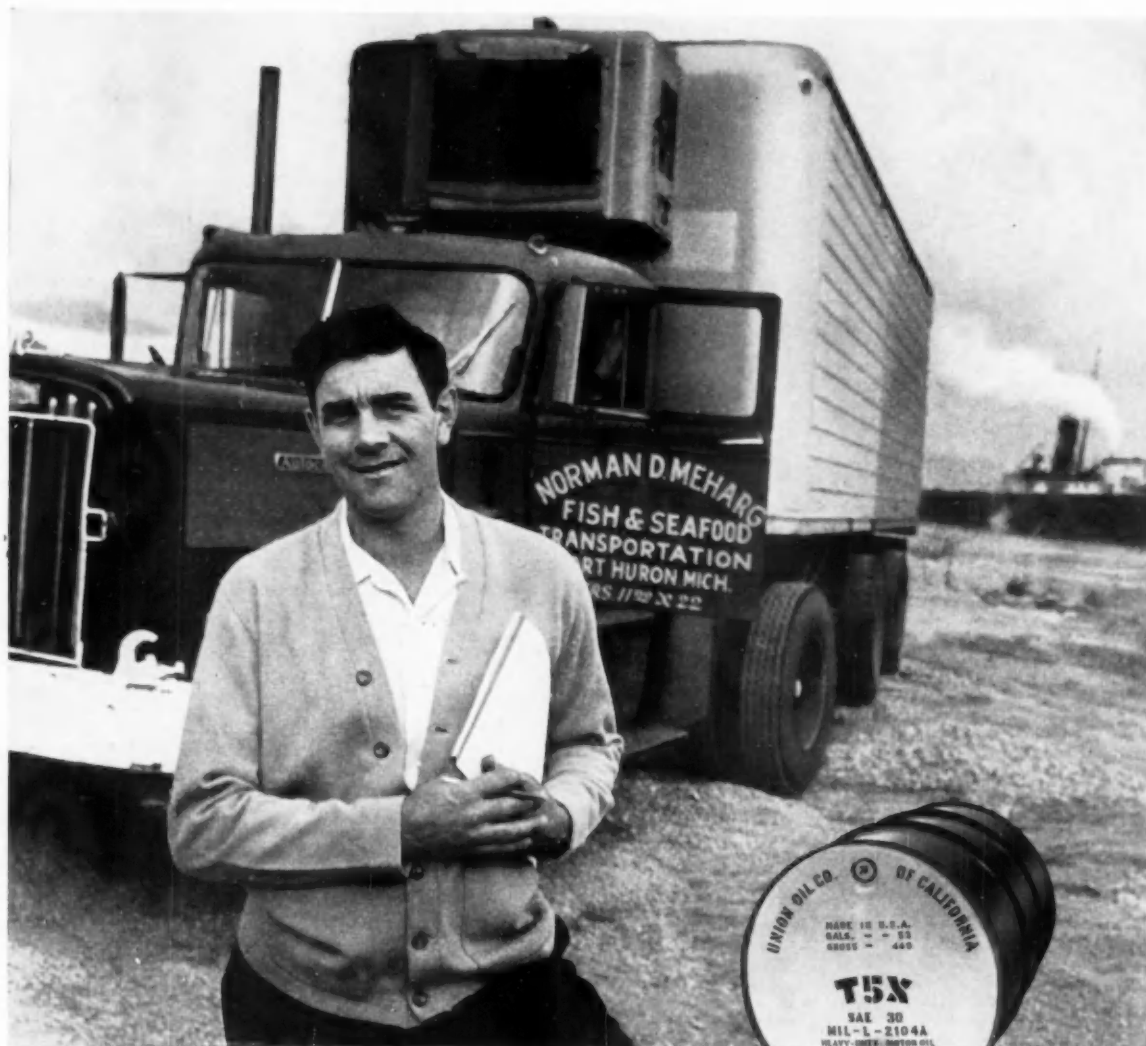
LP Gas 831's, with their higher horsepower and increased torque output, require the Eaton 19503 or Timken R140 (or larger) axles, either of which may be specified.

### 9000-lb Front Axle

Among other components which are standard on 831 are the Timken FD901TW front axle, rated at 9000 lb, Ross TA66 steering gear, Bendix-Westinghouse air brake system with Tu-Flo compressor.

Standard radiator is oversize, with 816 sq in of frontal area.

Contributing to the soft and comfortable ride of this new Diamond T are Houdaille hydraulic, double-acting shock absorbers, which are also standard equipment, as is a 12-volt electrical system with 50-amp generator.



Norman D. Meharg, owner, Fish & Seafood Transportation, Port Huron, Michigan

## "We rely on T5X to keep our schedules"

"If there's any trucking operation more dependent upon maintaining your schedules than hauling fresh fish, I have yet to hear about it.

"And because a few hours delay due to engine failure can spell disaster for a seafood hauler, we protect ourselves against this by using the *finest* motor oil, Union's T5X.

"This Autocar with an NHRB Cummins averages 3,000 miles a week between Escanaba, Michigan, and New York's Fulton Fish Market. It has gone over 200,000 miles on T5X since the last overhaul as against 106,000 miles with the oil we used previously, and we can report similarly outstanding performances from our other trucks, all of which use T5X exclusively."

Like Mr. Meharg, we don't know off-hand of any truck-

ing operation where engine performance is more vitally important, but we *do* know that he and the thousands of other T5X users in the trucking industry are entirely justified in their reliance on this *amazing* purple oil for maximum protection against engine failure. T5X is immediately available from your nearby Union Oil representative. Why not place your order today?

### UNION OIL COMPANY **76** OF CALIFORNIA

Los Angeles: Union Oil Bldg. • New York: 45 Rockefeller Plaza • Chicago: 1612 Bankers Bldg. • Philadelphia: Eastwick Ave. & Edgewood St.  
Dallas: 313 Fidelity Union Life Bldg. • Kansas City, Mo.: 612 W. 47th St.  
New Orleans: 644 Nat'l Bank of Commerce Bldg. • Boston: 214 Harvard Ave.

# June News Roundup

## Passenger Car Fleet Group

Formation of the National Assn. of Fleet Administrators, Inc., an organization of executives administering fleets of passenger vehicles has been announced by J. W. Limpert, Standard Brands, Inc., president of the new group. Presently the 25 charter members of NAFA administer fleets totaling more than 42,000 passenger cars, valued at \$77 million. The organization is mapping plans to broaden its membership, extend its organization to the regional level.

Aims of the group, according to Limpert, are to encourage and promote efficient fleet organization; to promote educational campaigns emphasizing the importance of efficiently and safely operated automotive fleets to industry, taxing and licensing authorities, and the general public; and to conduct educational and training programs for the benefit of fleet operators.

Other officers are: E. J. Parker, Hartford Fire Insurance group, chairman of the board; Samuel Lee, Lee Fleet Management, and James Bekker, Gerber Products Co., directors; F. H. Piper, Minnesota Mining & Manufacturing Co., R. K. Reese, Kraft Foods, and G. E. Wilson, Lever Brothers Co., vice presidents; C. B. Whitaker, General Mills Inc., secretary, S. L. Landau, Picker X-Ray Corp., treasurer, and J. O. Sibley, U. S. Fidelity & Guaranty Co., assistant treasurer.

## Jenkins Heads Safety Men

Joseph T. Jenkins is the newly elected chairman of ATA's Council of Safety Supervisors. He is director of safety for Mason & Dixon Lines, Kingsport, Tenn. Also elected at the Council's meeting last month in Dallas, Texas, were Eastern Express Safety Director Bert L. Wheat — vice chairman, Coastal Tank Lines' R. F.

## 1957 Domestic Truck Factory Sales by GVW

	6,000 lb. and less*	6,001-10,000*	10,001-14,000	14,001-16,000	16,001-19,500	19,501-26,000	26,001-33,000	Over 33,000	Tota
January	42,027	10,018	1,836	7,203	3,514	3,099	2,932	2,579	73,208
February	37,847	11,292	2,391	10,407	3,023	3,139	2,795	2,799	73,693
March	39,622	11,272	2,438	8,362	3,389	2,691	2,935	2,814	73,523
3 Mos. 1957	119,496	32,582	6,665	25,972	9,926	8,929	8,662	8,192	220,424
3 Mos. 1956	112,517	42,074	9,432	44,293	13,143	14,272	18,769	**	254,500

\* Prior to Jan. 1957, vehicles below 10,001 G.V.W. were grouped as follows: "5,000 and less" and "5,001-10,000."  
\*\* Included with 26,001-33,000 group. Source: Automobile Manufacturers Assn.

Varner — eastern regional chairman, Deaton Truck Lines' Horace Grant — southern regional chairman, Motor Cargo's G. L. Smith — central regional chairman, and Western Truck Lines' A. S. Lombardi — western regional chairman.

## Dugan Gets Top Award

Also at the Safety meeting, Dan Dugan Oil Transport, Sioux Falls, S.D., was presented with the Trailmobile trophy — top prize in ATA's National Truck Safety Contest.

## Emergency Brake Committee

In studying emergency braking this summer, the ICC has the cooperation of three other governmental agencies,

10 associations plus manufacturer representatives. The advisory committee, in addition to industry members, includes representatives from:

Bureau of Public Roads  
General Services Administration  
Dept. of the Army  
American Assn. of Motor Vehicle Administrators  
American Trucking Assns.  
Automotive Parts Manufacturers Assn.  
Friction Materials Standards Institute  
Motor and Equipment Manufacturers Assn.  
National Standard Parts Assn.  
Private Truck Council of America  
Society of Automotive Engineers  
Truck-Trailer Manufacturers Assn.  
(TURN TO PAGE 226, PLEASE)

## Balancing the Highway Trust Fund

Estimated receipts, expenditures, and balance of highway trust fund, fiscal years 1967-72

(In millions of dollars)

Fiscal year	Receipts (including interest, after deduction of refunds)	Expenditures			Status of trust fund	
		Interstate	Primary, secondary, and urban <sup>1</sup>	Total	Annual net credit (+) or charge (-)	Balance, credit (+) or debit (-) at end of year
1957	1,542	300	750	1,050	+492	+492
1958	2,070	1,100	800	1,900	+170	+662
1959	2,118	1,500	850	2,350	-232	+430
1960	2,159	1,600	900	2,500	-341	+89
1961	2,206	1,395	900	2,295	-89	
1962	2,258	1,338	900	2,238		
1963	2,313	1,413	900	2,313		
1964	2,370	1,470	900	2,370		
1965	2,429	1,529	900	2,429		
1966	2,490	1,590	900	2,490		
1967	2,553	1,653	900	2,553		
1968	2,619	1,719	900	2,619		
1969	2,686	1,786	900	2,686		
1970	2,755	1,855	900	2,755		
1971	2,826	1,926	900	2,826		
1972	* 3,139	2,941	198	3,139		
Total	38,533	25,135	13,398	38,533		

<sup>1</sup> Assuming primary, secondary, and urban authorizations totaling \$900 million annually, fiscal years 1960 to 1970, inclusive.

\* Includes receipts and refunds after June 30, 1972, of taxes and refunds accrued on or before that date.

Source: Office of the Secretary of the Treasury, Analysis Staff, Tax Division, Feb. 28, 1957.

Chart shows how it was planned to balance income to the Highway Trust Fund from federal highway use taxes against expenses for federal highway building during the 13-year program. Word at press time on the proposal to divert a part of this fund (May, pages 5 & 33) was that it was still pending in Senate Committee, was likely to be reported out. To prevent future "raids," H7223 has been introduced. It says only the Bureau of Public Roads can get money from the Trust Fund. It needs fleet operator support to pass.



08  
13  
3  
4  
0



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St. Johnsbury Trucking Company, Inc.



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R-C M



The Mason and Dixon Lines, Inc.



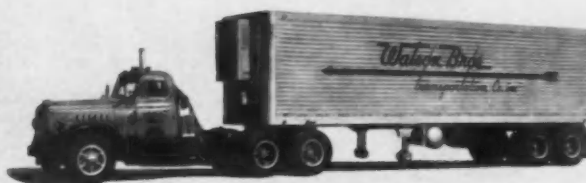
Great Southern Trucking Company



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Fortier Transportation Company



Red Star Lines of Auburn, N. Y., Inc.



Campbell Sixty-Six Express, Inc.



Pacific Intermountain Express



Lee Way Motor Freight, Inc.

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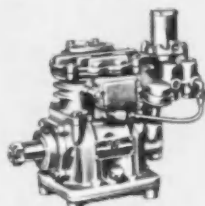
**...and Bendix-Westinghouse backs you like nobody else in the Air Brake business!**

## Performance

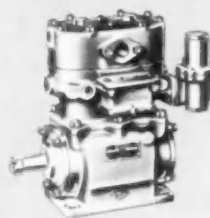
2

The best proof of dependable product performance is a long list of satisfied customers—and Bendix-Westinghouse offers you the longest list in the business.

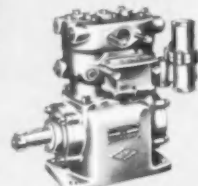
Every component part making up the complete Bendix-Westinghouse Air Brake system has been proved for safe, reliable operation over billions of miles of service. When you specify Bendix-Westinghouse, you specify longest experience and finest quality.



TU-FLO 300



TU-FLO 500



TU-FLO 400

## Service & Distribution

3

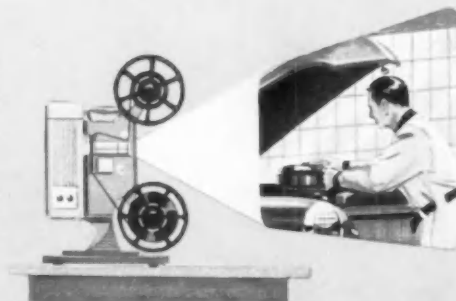
Anywhere your trucks go, they're close to an authorized Bendix-Westinghouse distributor who has expert mechanics and a complete stock of repair exchange units and service parts to handle necessary maintenance and repairs. This nation-wide system—biggest in the business—is assurance that readily available, efficient service is always at hand to keep Bendix-Westinghouse equipment in top condition.



## Factory Aids

4

Bendix-Westinghouse distributors and truck, trailer and bus operators everywhere are provided with many training aids to make their jobs easier. Motion pictures, service schools at the factory and in the field, and technical literature covering the operation and maintenance of air brake equipment are only a few of the self-helps offered to Bendix-Westinghouse users.



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## Tomorrow's Engine—

# PINWHEEL or BOUNCER?

**For conventional engines, they're thinking about a re-designed combustion chamber, fuel injection, alternators, up to 6-barrel carburetors**

**By Joseph Geschelin**  
Detroit Technical Editor

▼ WILL TOMORROW'S engine be a "pinwheel" turbine or a free piston "bouncer"? Research is being pushed and a break-through to production models of either type could come sooner than the "five years or longer" estimate of most engineers.

But these new-type power plants are not the only ones getting attention. Being considered for wider application to the piston engine are . . .

- A new-design combustion chamber.
- Fuel injection.
- Alternators.
- Higher octane fuels.
- Multi-barrel carburetors—2, 4 or even 6.

### The Gas Turbine

There is a strong feeling that the gas turbine may find its most useful applications—at the start—for motor trucks and tractors. In this connection, the recent announcement by both Ford and Chevrolet (Mar., page 34) that they are testing such power plants in trucks, is interesting.

While both agree that much more development work is required, they feel that the turbine has progressed to a point where commercial application, particularly in the heavy duty truck field, is possible.

Admittedly, fuel consumption is the biggest problem yet to be solved. However, experiments conducted so far indicate a great potential in the truck field, where it may appear before it does in automobiles. One of the biggest advantages of turbine over conventional piston engine is that it has greater ability to pull heavier loads as a result of superior torque characteristics, an important aspect in truck operations.

Chevrolet's turbine, dubbed the Turbo-Titan, is coupled to a conventional tandem truck drive train, which includes a beefed up Powermatic transmission, operating with increased line pressures to hold elements in engagement under the higher torque. Ford's turbine is being tested in the company's new Tilt-Cab truck, introduced recently (Jan., page 86).

While Chrysler has not hinted whether it, too, was experimenting with gas turbines in trucks, it undoubtedly is doing some work along this line. The company recently announced that it was expanding its turbine research facilities considerably, a tip-off

(TURN TO NEXT PAGE, PLEASE)

# Tomorrow's Engine

Continued from Page 121

that it may be looking at possibilities in trucks. Chrysler has for some time been experimenting with a gas turbine in a stock Plymouth. At GMC Truck and Coach, one phase of gas turbine research has been with a unit mounted in a transit bus.

## Free Piston Engine

The recent demonstration of the Typhoon, the experimental tractor developed by the Tractor and Implement Division, Ford Motor Co., focused attention on the free piston (gasifier) turbine combination which serves as its powerplant.

The press preview uncovered some speculation by Ford management as to the potential of this machine.

So far as Scientific Laboratory engineers are concerned there are no question marks as to the practicability of the gasifier arrangement nor as to its ability to compete with reciprocating engines within the power output range of the present gasifier (160 gas-hp). They feel that with further refinement in design they can produce a powerplant that will weigh less, take less space, cost less per horsepower, and be more economical to operate. It was stated that the current gasifier is well suited for industrial and motor truck applications.

They expect production equipment to operate for around 200,000 miles without tear-down. Moreover, the arrangement of components is such as to make tear-down and replacement of parts a comparatively easy job.

## Higher Torque at Low Speed

The torque curve is equally distinctive. Instead of the kind of curve usually associated with reciprocating engines, it is practically flat and has a downward slope from low speed to high speed. This means that the powerplant will deliver increasingly higher torque values as engine speed is pulled down. The machine is singularly vibration-free and practically noiseless. In fact, no tailpipes or muffler are used on the Typhoon installation.

The free piston gasifier does not require direct mechanical connection with the drive. It can be placed anywhere, connecting with the turbine only with a plumbing line that carries the hot gases.

There is apparently nothing to prevent the designer from piping the heated gases from the gasifier to any reasonable number of small turbines. These could be used to supply power for accessory purposes instead of using a power takeoff. There is a hint too that it might be feasible to design a vehicle with a small turbine at each wheel to produce a four-wheel drive without intermediate drive mechanism. To avoid mis-

(TURN TO PAGE 124, PLEASE)

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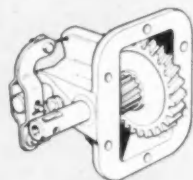
**Muncie Shafting** available in all sizes. Round shafts have 2" keyway on one end, long keyway at other end. You can stock standard sizes, cut to length as needed. Machined keys provided. Square and Hex shafts available.

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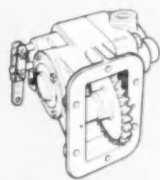


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Hydraulic Power Take-Offs



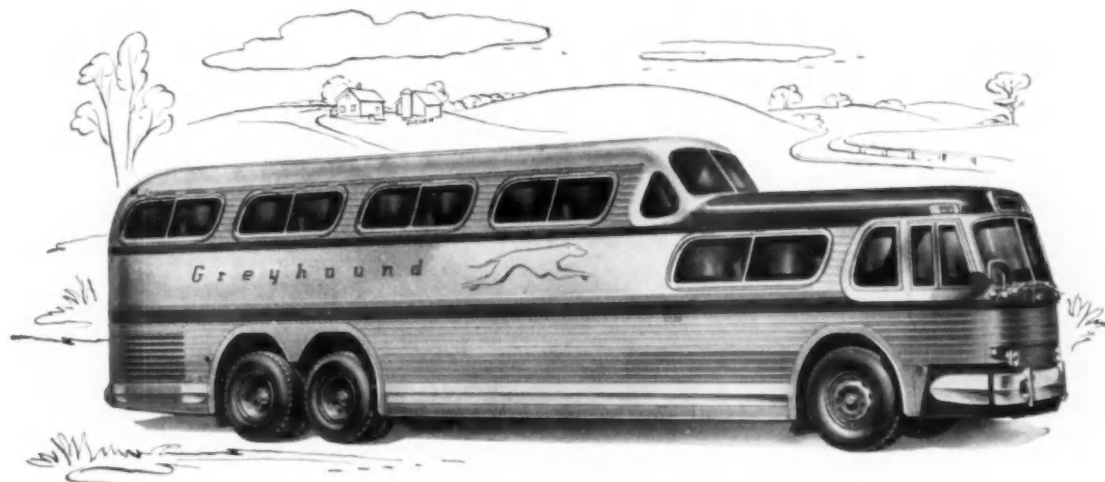
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Vickers Hydraulic Power Steering is easily applicable to new and existing vehicle designs . . . usually with very minor alteration. Get additional information by asking for Bulletin M-5106.

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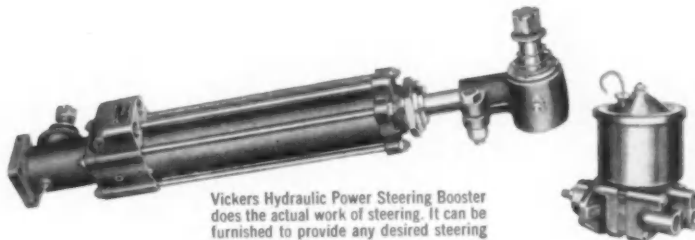
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Engine-driven Vickers Balanced Vane Type Pump supplies the power for steering. This extremely compact pump has integral volume control and relief valves, and oil reservoir.

## Tomorrow's Engine

Continued from Page 122

understanding, the management stressed that the present work is strictly experimental. It is not in production nor will it be ready for a long time to come.

### GM's Free Piston

GM's research staff has built a

twin cylinder or "Siamese unit" free piston engine for an experimental automobile. Rated at 250 gas hp this particular design was chosen for its compactness. If a single-cylinder gasifier had been used for the experimental XP-500, it would have measured about 5 ft long and approximately 2 ft in diameter. The "Siamese unit" is 40 in. long, 18 in. high and 34 in. wide. It has a power cylinder of 4 in., a compressor cylinder of 11

in. with approximately a 5-in. stroke. Its speed ranges from approximately 1000 strokes per minute to a little more than 2000 spm.

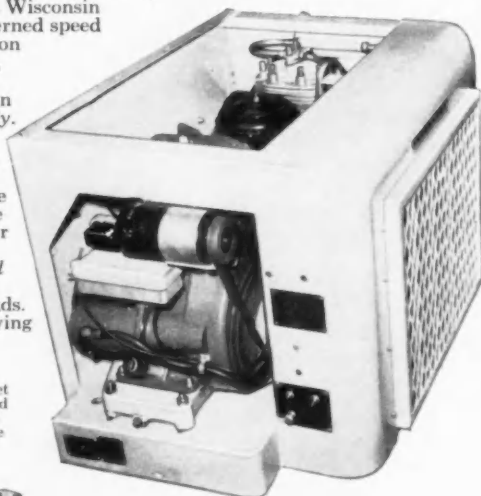
At idle, this engine uses about 8 per cent of its full load fuel, as the result of a recirculating valve which discharges some of compressed air back into the engine's air intake. In the XP-500 the gasifier unit is beneath the hood. A pipe connects it with a power turbine near the car's rear drive wheels.

# HEAVY-DUTY *Automatic* REFRIGERATION UNIT POWER

• Temperature control is *automatic* with this Wisconsin-powered Thermo King refrigeration unit, built by Thermo King Corporation, Minneapolis, Minn. Its Wisconsin Engine runs at full governed speed until desired refrigeration temperature is reached, then slows to "idle" . . . repeating the cycle again and again, *automatically*.

Why such unflinching service? The advanced engineering design of every Wisconsin Engine includes a High Torque design, the usable power factor that enables the engine to carry the load always . . . no stalling under sudden shock loads. Good reason for specifying Wisconsin-powered refrigeration units.

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### Piston Engine Future

Out of the welter of current discussion it is important to note that many engines now in production may be pretty much near the limit of practical increases in horsepower and compression ratio. Even 1957 engines have become sensitive to available fuels as well as the effects of spark plug shorting and pre-ignition.

Until entirely new engines appear in the near future, how much more horsepower increase can the present engines tolerate? Are we now in an area of diminishing returns both in respect to output and compression ratio. Quite a number of engines now have an advertised compression ratio of 10 to 1. How much higher can this go next year? Some experts doubt whether the net increases will be anything but fractional. For one thing, further increases in compression ratio will depend upon the general availability of high quality super premium fuels. Moreover, such fuels will have to feature some practical type of modifier—such as the phosphor compounds—to counter-act the effect of spark plug fouling as well as combustion chamber deposits.

Some of the current experimental work indicates that although phosphorous compounds do not reduce or eliminate deposits, they do "modify" the action of such deposits. In the case of spark plugs they reduce shorting. In the case of combustion chamber deposits they act to reduce surface temperature and thus aid in controlling pre-ignition.

We also learn that current ex-  
(TURN TO PAGE 126, PLEASE)



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WITH TODAY'S CARBURETOR PROBLEMS



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From left—E. G. Bartlow, factory sales manager, Freight-liner Corp., Portland, Ore. L. J. O'Doherty, sales director, Automotive Div., Acme Quality Paints,



Inc., Detroit. William H. Moore, field service manager, Arolube Div., Arc Equipment Corp., Bryan, Ohio



## Tomorrow's Engine

Continued from Page 124

perimental work seems to indicate that there is no immediate ceiling on compression ratio. Even ratios usually associated with diesel engine cycles are attainable with proper combustion chamber design and fuels of requisite octane rating. On the other hand, it has been observed that as compression ratio and specific output are increased friction horsepower shows an increase. This implies that the net gain will be lower unless some means can be found to further decrease the effect of friction horsepower.

### New Combustion Chamber?

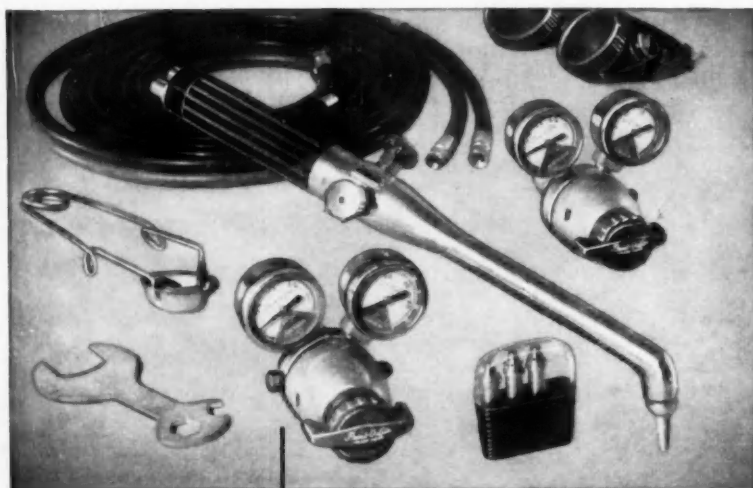
Some time ago we were told by an engine designer at work under way to create a radical type of combustion chamber, sufficiently different to change the present picture materially. We understand that considerable work is being done in this area possibly with single-cylinder engines.

Realistically the speed with which compression ratio can be increased depends entirely upon the action of refiners. It is clearly a matter of economics. It is quite possible that super-octane fuel may be available in various marketing areas in limited quantity sufficient to take care of the needs of higher priced cars. One avenue of approach is represented by the five-range fuel pump used in Florida and Georgia by Sunoco and being extended to other marketing areas in the near future.

### Fuel Injection

Fuel injection looks like the coming thing somewhere in the future. It promises an increase in output and torque as well as additional fuel economy. It promises freedom from some of the troublesome problems encountered with carburetors. On the other hand, once it gets into the hands of the public it may develop some new

(TURN TO PAGE 220, PLEASE)



**NEW All-Purpose**

# PREST-O-LITE

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## Welding and Cutting Outfit

### WELDS, CUTS, HEATS



Here's a quick, economical unit for handling hundreds of everyday welding, cutting, and heating jobs around the garage, body shop, and service station. With the PREST-O-LITE Oxy-Acetylene Welding and Cutting Outfit, you can weld or cut anywhere. No electric power is needed. Cuts effortlessly through heavy steel; welds sheet metal and light plate. With the convenient new double-duty blowpipe, you simply change tips—in seconds—to switch from welding to cutting. No "extra" attachments or accessories are needed. Oxygen and acetylene available immediately in cylinders sized to meet your exact needs.

Straighten frames, build up worn parts, solder bodies, weld shafts, rods, manifolds—there's practically no limit to what you can do with this PREST-O-LITE outfit in your shop or garage.

Complete outfit includes "2-in-1" blowpipe, pressure regulators, hose, wrench, friction lighter, goggles, 1 cutting tip, 3 welding tips and full instructions. As illustrated, only \$76.50.

Write today for free descriptive booklet.

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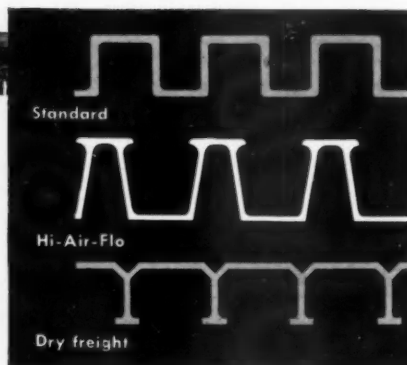
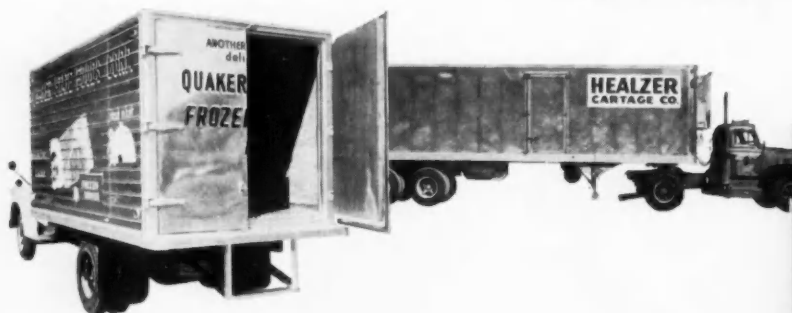
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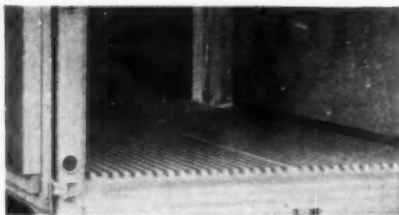
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Heavy Duty Reefer Sections—and in addition provide 60% more air circulation under the cargo. This is accomplished with only a  $\frac{3}{8}$ " increase in the height of the floor boards, so cargo space remains virtually undiminished.

Revere Aluminum Reefer Floor Sections are an outstanding example of what you can gain with light-weight parts designed by men who know aluminum. The proof is that Revere Floor Sections are preferred by many leading truck-trailer manufacturers, body builders and fleet operators, and are delivering flawless service in hundreds of refrigerated trucks and trailers throughout the country.

Revere's new Hi-Air-Flo Floor Sections have all the desirable features of Revere Standard and

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Hi-Air-Flo, like other Revere Reefer Sections, have an exclusive interlocking design\* which forms a mechanically tight lock in two directions. Properly installed, a Revere floor is watertight and completely protects insulation against seepage from inside the body. There are no boltholes through which such water can leak. Likewise, all bolts are concealed, making it easy to maintain high standards of sanitation.

Both Revere Hi-Air-Flo and Standard Reefer Sections have matching Multi End-Plug Aluminum Castings for finishing the ends of the floor. Properly installed, they form a continuous assembly across the entire width of the floor, provide a watertight seal, and protect floor-board ends from damage by materials handling equipment. Saving hours of installation time, they have proved to be the quickest, neatest way of finishing the ends of a floor.

An additional feature of great importance to body builders and repair shops is the availability of Revere Aluminum Starter Strips. The starter strip is installed at or near the centerline of the body and the floor is built outward from it toward each side. Should an accident ever cause damage to the floor, only that half need be taken up to which repairs must be made.

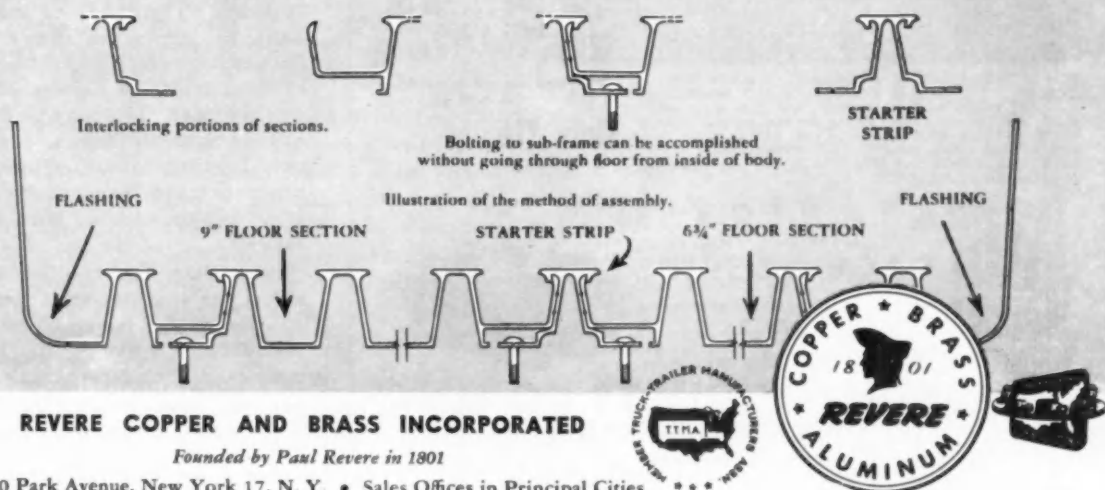
All types of Revere Floor Sections come in  $6\frac{3}{4}$ " and 9" widths. These, with the flashing sections and starter strips, will make up a floor for virtually any width of body. They can be bought as a unit, singly, or in any combination.

Revere also has Aluminum Dry Freight Floor Sections with the same unique interlocking design\*. They provide an extra strong load bearing surface, make possible a watertight floor, and include the great advantage of starter strip installation.

Heat treated aluminum alloys are generally used for floor sections but, for extra heavy loads, all Revere floors can be supplied in extra strength heat treatable alloys. A Revere Technical Advisor will gladly consult with you about this and other matters pertaining to the use of metals. *Revere Aluminum Floor Sections are maintained in stock for immediate shipment.*

Write or phone today for full details on Revere Aluminum Floor Sections—and for information on Revere's new Ice Cream Body and Refrigerated Foods Body Designs. Ask your body builder, automotive parts distributor or the nearest Revere Sales Office for complete information.

\*Patent applied for



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*Founded by Paul Revere in 1801*

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## Detroit Edison Cuts Battery Failure

Continued from Page 75

the total hours spent on service calls and the average time per call.

• The battery change form is used when a battery is replaced. It lists the number and location of the vehicle and the date. A check list of reasons for failure

is provided for the mechanic. These include drivers leaving on ignition, radio, or lights as well as corrosion, dry battery, generator trouble or hard starting. A space for reporting failures from causes not listed also is available.

The day-to-day reports are com-

pared into monthly reports summarized to show month-by-month comparisons. These show the number of failures due to batteries, hard starting, batteries and hard starting together, tires, and mechanical, such as engine, transmission, brakes, wiring, ignition, and miscellaneous.

### War on Dead Batteries

A study of the summary indicated that a sizeable percentage of our trouble calls was due to dead batteries in the field or to hard starting. These troubles naturally were highest in winter, but were surprisingly high also in summer. Referring to the chart, we see that before our present program began in late 1955, failures from these two causes were running 31.65 per cent of total, or nearly one-third. Note that battery failures alone accounted for 15 per cent, far above the experience of over-the-road haulers, which is less than three per cent.

Because of the nature of our operation, we expect higher than normal battery mortality. Current drain is high in our fleet because most of our trailers are equipped with electric brakes and we have about 250 units that mount radio. Also a large number are work units, travel very few miles, but idle on the job to maintain generation and battery charge while radios continue to operate.

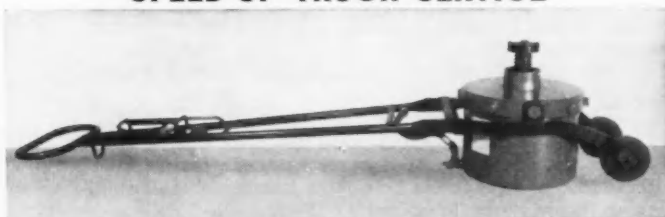
### Dry Battery Problem

After a thorough study of the battery change reports, we launched a preventive maintenance program designed to reduce battery failures. One of the most common faults we discovered was dry batteries. This may be due to any of several factors, such as overcharging, exceptional current drain, cracked cases, faulty electrical system causing hard starting, etc.

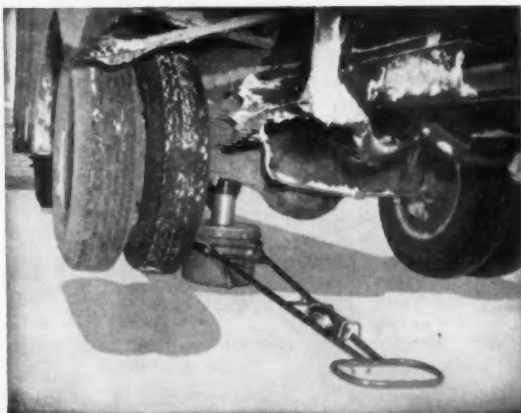
As a first step, we issued instructions that batteries were to be watered and inspected for corrosion twice a month. To insure compliance, we made check lists showing each vehicle charged to each location, which is responsible for doing the job.

(TURN TO PAGE 132, PLEASE)

### The new FAST - EASIER way to SPEED-UP TRUCK SERVICE



## BRANICK AIR-OPERATED TRUCK JACK



EASY TO POSITION  
QUICK TO RAISE

POSITION JACK —  
RAISE & LOWER AXLE  
IN SECONDS WITH-  
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LIFTS 5 TONS . . .

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f o b factory



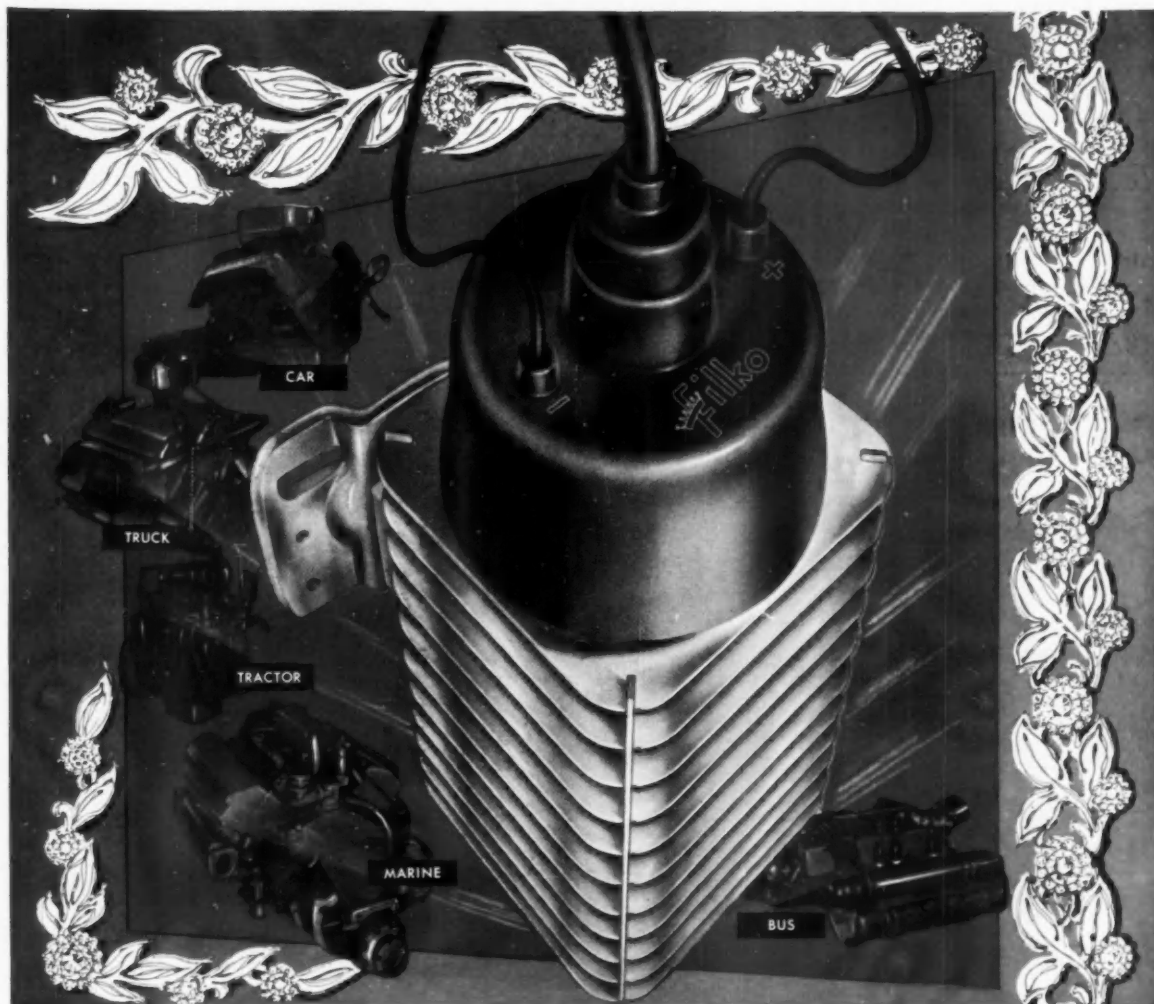
### BRANICK'S SAFETY INFLATION CAGE & DEVICE

TESTED TO GIVE POSITIVE PROTECTION from blown-off side or lock rings while inflating truck tires . . . SAFETY INFLATION CAGE Only \$90.25 and SAFETY INFLATION DE- VICE Only \$37.50 . . . Prices f.o.b. factory.



## BRANICK PRODUCTS CO. INC. FARGO BOX 1937 NORTH DAKOTA

All exports except Canada writer: Branick Mfg. Export Co., 82 Beaver St., New York, N. Y.  
Eastern Sales Office: 227 W. Exchange St., Akron, Ohio



every engine deserves the *Crown Jewel* protection of the  
new **FILKO** all weather coil!

Here's the heavy duty coil that's built to ignore the weatherman! Unique, "Weather-Guard" neoprene hood with snorkel type leads make it really water-proof Full 173 sq. in. of heat dissipation area defies the hottest weather. Low current draw assures easier frigid-weather starting. In the Crown Jewel tradition, there's extra quality all the way through this tougher, more rugged coil—from extra amounts of copper in the windings (the total is 2 miles!) to its rust-resistant aluminum finished case. Yes, this powerfully-built new Filko All Weather Coil can really take it!

- Completely weather-proofed — can't short out!
- 5 times the heat-dissipation of conventional coils lengthens life!
- Low current draw for quicker cold weather starting!

Send for catalog

*the Crown Jewels of Ignition*



F. & B. Mfg. Co., 4248 W. Chicago Ave., Chicago 51, Ill.

Warehouses in Los Angeles, Oakland, Miami, Fort Worth, New York, Boston, Atlanta, Cleveland, Lubbock, Little Rock, Philadelphia, Kansas City



G-115R

COMMERCIAL CAR JOURNAL, June, 1957

131

## Detroit Edison . . .

Continued from Page 130

### Findings Justify Effort

Our field service men at first reacted unfavorably to the program, since they viewed it as extra work with little or no gain. However, as they proceeded to find dry and corroded batteries and were able to detect and cor-

rect bad regulator settings, intermittent shorts, and defective batteries before a field-trouble call developed, they changed their minds. Today they are convinced definite savings are being realized and complaints are fewer. Utility men handle the watering and inspection program under the supervision of foremen and leaders.

Coincident with the watering and inspection program, we instituted a thorough annual electrical

checkup procedure to be completed between Oct. 1 and Nov. 15 of each year. The purpose is to send our vehicles into the winter period in top condition and to reduce starting and battery troubles.

### Replace at 18-Month Periods

An important part of this program is the scrapping of all batteries over 18 months old at the time of yearly checkup. Our batteries are unconditionally guaranteed for 20 months, but we feel that the cost of service calls resulting from old batteries retained to natural death is greater than the slight cost of discarding them before they fail in service.

Admittedly, the cost of arbitrary replacement after 18 months was high the first year, about \$2000. After that, however, it tends to drop off and after the second year is minor. The first winter the battery is new. The second it's one year old, and is discarded before we go into the third winter.

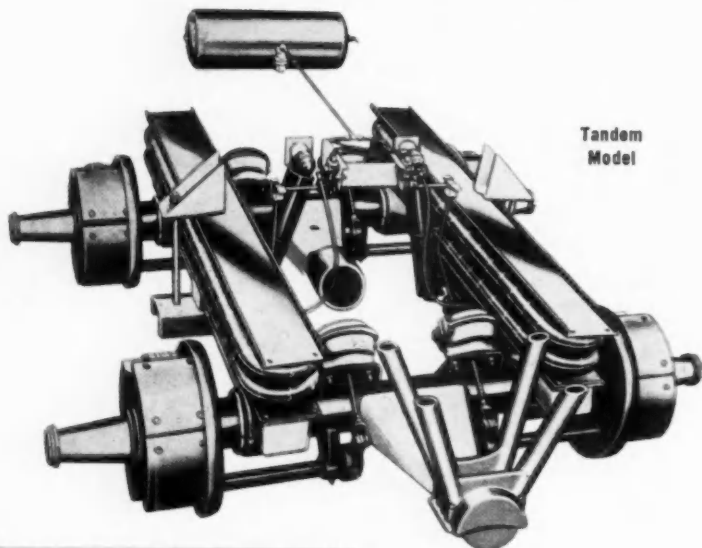
### Check of Ignition

We also go through the electrical circuit thoroughly as an important part of our annual inspection program. This includes checking all ground and positive battery cables for corrosion or breaks and cleaning or replacing them before reconnect. All electrical leads are disconnected, inspected, cleaned and reconnected. Generator brushes are examined and replaced if worn, and all connections checked. Regulator points and operation are checked. Distributor points are inspected, cleaned and adjusted, or replaced if necessary. Spark plugs are tested, cleaned and checked, or replaced. The entire circuit is tested for operation and inspected closely for possible grounds.

We also waterproof the wiring, distributor, and other electrical components at the time of annual inspection and again six months later. We use a silicone resin preparation sprayed on for this purpose. An important point here is that we instruct our men always to re-waterproof parts which have been removed, since a dis-

(TURN TO PAGE 134, PLEASE)

## CONTROLLED-CAPTIVE AIR in a YOCAR AiRide



### Makes possible:

1. Longer Trailer Life
2. Less Maintenance Cost
3. Fewer Damaged Freight Claims
4. Better Roadability
5. Increased Payload

For detailed information on how you, too, can benefit with AiRide—contact us soon. It's Quite a Story!

YOCAR

Manufacturers of Hoobler self-steering widespread tandems  
YOUNGSTOWN STEEL CAR CORPORATION

NILES 6, OHIO





**Obie Dilldine,**  
Superintendent of Peabody Coal Company's  
Power Mine at Montrose, Missouri.



With 100-octane-plus **PHILGAS\***

**"trucks are out of the pit with power to spare!"**

Up a dirt runway at a severe 10% grade comes a Dart Model 300 truck, pulling a gargantuan load of 50 tons of coal. Each of Peabody's four trucks, using Philgas for power, climbs out of the pit 24 times a day, makes a 3-mile run to the tippie and is back . . . in less than 20 minutes . . . for another 50-ton load.

In over 2 years with Philgas, not a single engine has needed overhauling. Mr. Dilldine says, "We get mileage that equals gasoline's, less oil consumption, and lower costs per mile."

Write for information about Philgas as a motor fuel for your fleet of trucks, buses or cabs.



\*Philgas is the Phillips Petroleum Company trademark for its high quality LP-Gas (propane, butane).

## PHILLIPS PETROLEUM COMPANY

SALES DEPARTMENT, Bartlesville, Oklahoma

### Offices in:

AMARILLO, TEX.—First Nat'l Bank Bldg.  
ATLANTA, GA.—1428 West Peachtree Street  
CHICAGO, ILL.—7 South Dearborn St.  
DENVER, COLO.—1375 Kearney Ave.  
DES MOINES, IOWA—6th Floor, Hubbell Bldg

HOUSTON, TEX.—1020 E. Holcombe Blvd.  
INDIANAPOLIS, IND.—1112 N. Pennsylvania St.  
KANSAS CITY, MO.—500 West 39th St.  
MINNEAPOLIS, MINN.—212 Sixth St. South  
NEW YORK, N. Y.—80 Broadway  
OMAHA, NEB.—6th Floor, WOW Building

RALEIGH, N. C.—804 St. Mary's St.  
SALT LAKE CITY, UTAH—68 South Main  
ST. LOUIS, MO.—4251 Lindell Blvd.  
TAMPA, FLA.—3737 Neptune St.  
TULSA, OKLA.—1708 Ulica Square  
WICHITA, KAN.—501 KFH Building

### Lighter Livestock Van

A new livestock "Volume Van" of hi-tensile steel construction, known as the Cattle Cruiser, is being introduced by Fruehauf Trailer Co. Stressed-skin construction permits a weight saving of up to 300 lb over conventional construction, with a gain in structural strength and rigidity. Each of the vertical side panels is pierced with vent openings that are flanged, to convert them into important structural elements, and to remove the possibility of injury to cattle. The panels in turn are supported by integrally formed sturdy posts. Multiple decking can be quickly and easily installed when desired. It is also possible to control ventilation in adverse climatic conditions as well as to readily convert the trailer for dry freight hauling with optional retainer strips at each post where light plywood panels can be inserted.



use only  
**FACTORY NEW  
GENUINE  
BENDIX DRIVES  
and  
PARTS!**



You can be proud of every repair job when you use only genuine parts. When it comes to servicing Bendix\* Drives, be sure to use only *factory new* Bendix Drives and Parts. This means your customers will get the same dependable performance built into every original Bendix Drive—performance proven by over 100,000,000 installations. Insist on *factory new* Bendix Drives and Parts when you order from your distributor.

\*REG. U.S. PAT. OFF.

## Bendix Drive

ECLIPSE MACHINE DIVISION of **Bendix**  
ELMIRA, NEW YORK  
AVIATION CORPORATION

Export Sales: Bendix International Division, 205 East 42nd St., New York 17, New York

### Detroit Edison . . .

Continued from Page 132

connect breaks the protective coating.

#### Operating Cooperation

Since it is important for economical operation to have the generator charging rate balance out the current drain without excessively fast idle, we have replaced tell-tale indicators with ammeters on certain of our vehicles. These units are "work" types, which are parked for long periods with the lights, radio or other electrical equipment operating. The 100 A ammeters we have installed balance the load and show the net charging rate so that the driver can idle the engine at optimum rpm to retain battery level without overspeeding.

Now one final important point. Since the motor transportation department is responsible for maintenance, but not operation of the vehicles, we supplied the operating departments full information about our program and what it is designed to do. Naturally, they do not like field troubles any more than we do, so their drivers are cooperating by careful attention to engine idle speeds, turning off electrical equipment when it is not needed, and reporting any faulty operation or potential trouble spots they observe.

END

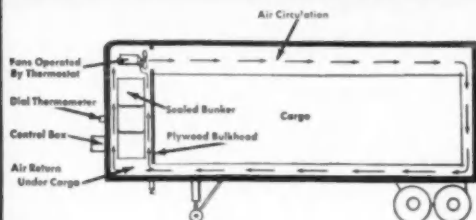
Please Resume Reading Page 76

# LIQUID'S NEW ECONO-COLD

*Offers three steps to  
Highest Profit Semi-trailer  
Refrigeration!*

## Step 3 GREATEST DEPENDABILITY

Mechanical risk is entirely avoided by using ECONO-COLD units. ECONO-COLD eliminates claims due to enroute failures. Simplicity of operation provides assurance against damage to equipment and lading—due to carelessness or neglect.



ECONO-COLD automatically maintains temperatures from  $-10$  to  $+60^{\circ}$ . It circulates air over, around and under the cargo, eliminating hot spots in the lower portion of lading. This improved design provides more air circulation and more refrigeration on demand than any other dry ice unit.

## Step 1 LOWEST COST

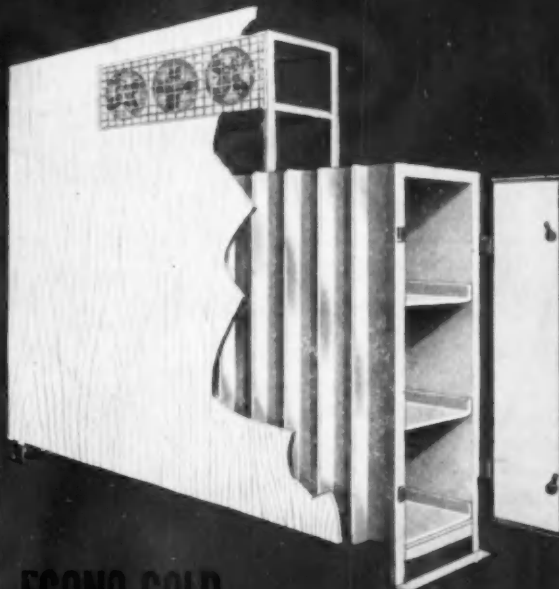
The ECONO-COLD unit for large semi-trailers costs less than \$600. It weighs less than 300 lbs.—permitting greater payloads on dry trips. Maintenance is practically nil.

It's ready to go when you want it. No down time or loss of loads to competitors.

## Step 2 LONGEST LIFE

The basic unit of ECONO-COLD is made of non-corrosive aluminum. It will last ten years or longer . . . outlasting several mechanical units. There is no deterioration—even after long periods of disuse.

Preventive maintenance consists of replacing 3 fan motors . . . (the only moving parts) . . . once a year.



**ECONO-COLD**

A patented product of The Liquid Carbonic Corporation

*World's Largest Producer of*

**THE LIQUID  
CARBONIC  
CORPORATION**

Chicago 23, Illinois



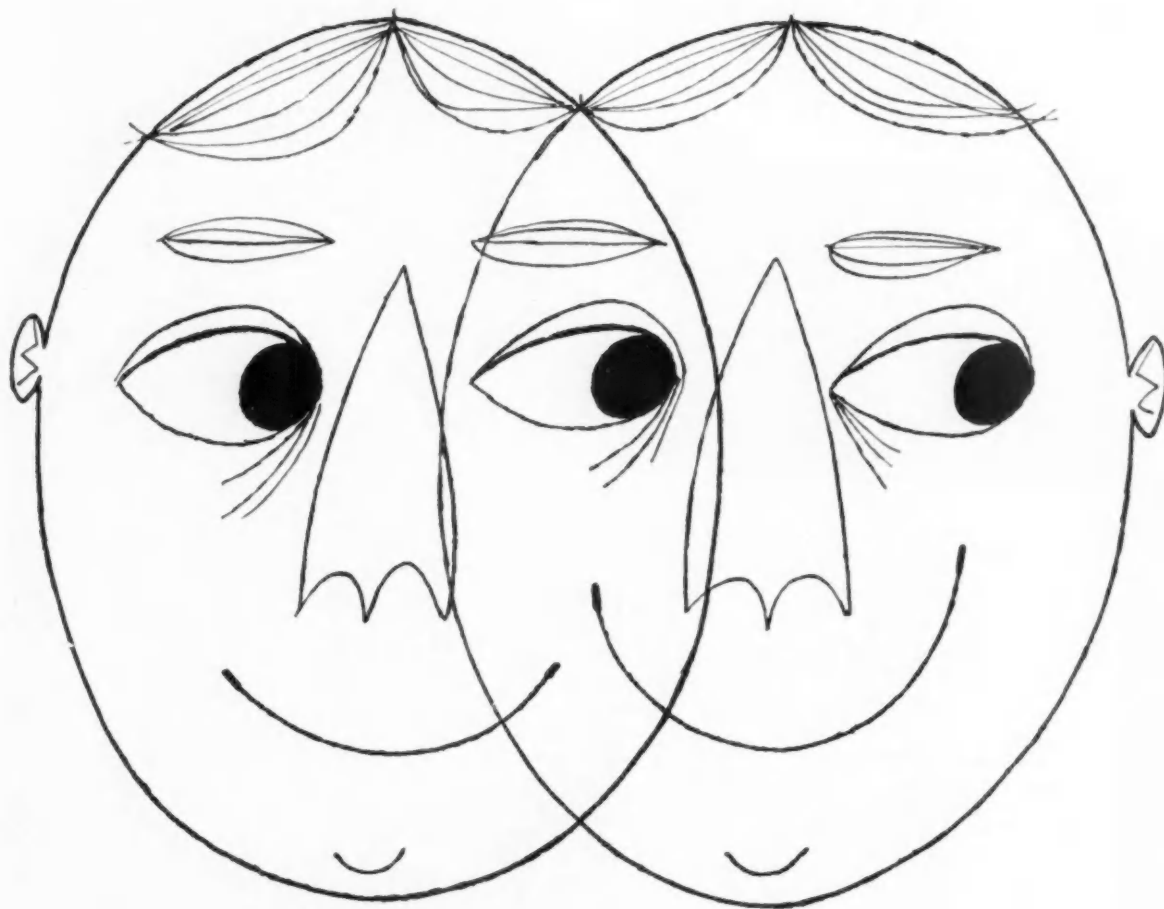
### THE LIQUID CARBONIC CORPORATION

3174 South Kedzie Avenue • Chicago 23, Illinois

- ☐ Please send me a copy of your new ECONO-COLD Bulletin.  
☐ Arrange to have your representative call to give me specific details about new ECONO-COLD Semi-Trailer Refrigeration.

NAME \_\_\_\_\_  
 COMPANY \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

*well worth a second look . . .*



Mo  
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beari  
by C  
Mora  
from  
alloy  
— a

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preci  
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steel

Mo  
now  
you  
with

COMM



# NEW COMPLETE LINE OF MORaine ENGINE BEARINGS!

*now . . . nearly 5,000 bearing part numbers  
are available for all your car, truck, bus,  
tractor, heavy-duty equipment requirements*

## *Moraine-400 Bearing*

toughest automotive engine bearing ever known. Developed by General Motors and Moraine Products research from a special aluminum alloy and cladding process—a Moraine exclusive!



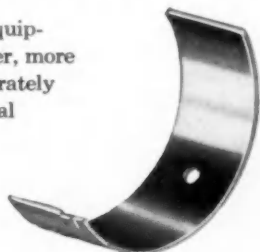
## *M-100 Bearing*

eight ways better with exclusive Moraine matrix between babbitt and steel. Permits highly desirable thin babbitt overlay without limiting embedability. A leading original equipment bearing and a Moraine exclusive!



## *Moraine Bi-Metal Bearings*

precision-built to original equipment specifications for longer, more dependable service in moderately loaded engines. Conventional steel-backed babbitt type.



## *Moraine Connecting Rod and Main Bearings*

come in standard, .001, .002, .010, .020, .030 undersize and semi-finished. Camshaft bearings in standard sizes. All numbers available in sleeved or overpacked sets according to application.



Moraine engine bearings are the original equipment bearings in millions of cars, trucks, and buses now on the road. These Moraine *service* bearings are made to *original equipment specifications*. See your United Motors System distributor for the whole story of your big new presold opportunity with Moraine. Get the facts *today*!

Another General Motors Value



## **Moraine Products**

Division of General Motors, Dayton, Ohio

**NO MATTER the Hauling Problem . . . BROWN SOLVES IT!**

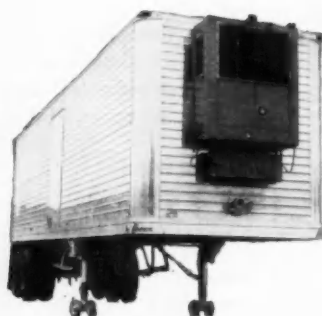


*Another of the Fleets Using Brown Aluminum Trailers*

**IN REFRIGERATING**

**ANY TRAILER**

*.....Cold Alone.....*



*Choice of Refrigeration Systems*

**BROWN TRAILERS, INC.**  
Chicago . . . SPOKANE . . . Reading  
**Sales & Service Coast-to-Coast**

Brown gives you more—MUCH MORE! Brown's advanced design assures greater benefits from your cooling unit. Their special construction permits maximum circulation of air inside the trailer, and assures minimum circulation of air to, or from, the outside. This helps to maintain the desired temperature, and gives maximum protection to every ounce of perishable cargo.

Outside . . . Brown's bright, highly reflective aluminum finish acts as a natural insulation. Inside . . . Brown's modern insulating techniques make it possible to haul greater loads, longer distances, with greater safety. This is no accident, for Brown has specialized in the fabrication and manufacture of aluminum trailers and truck bodies for over 25 years.

Brown was first to introduce all-aluminum frameless trailers, and pioneered the development and manufacture of insulated and refrigerated aluminum trailers. No matter what your special refrigeration needs—Brown can solve your problems, as they have for thousands of other truckers through the years.

***There's a difference!***

**MIRROR-LIKE SKIN** reflects sun's heat rays. Interiors stay up to 15 degrees cooler in a Brown Trailer. Aluminum skins are easy to keep clean and bright. Just wash away the dirt. Water won't rust or discolor.

**MAXIMUM INTERIOR WIDTH—** Brown's stressed skin design permits 90 inches of valuable loading width, when 3 inches of continuous and fully effective insulation is used in both side walls. The insulation is not compressed to a less effective thickness over any structural members.

#### AIR AND MOISTURE TIGHT SEAMS—

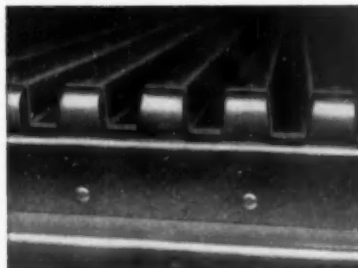
Non-corrosive aluminum walls, roof, and floor are precision joined for air and moisture tightness at all the seams. Alternating vertical and horizontal layers of glass fiber reduces metal-to-metal contact between the outside and inside, when extremely low temperatures are desired. This solid 4 to 6 inch insulation blanket seals off heat flow from the outside, greatly reducing the trailer's heat gain. Plastic, aluminum, galvanized steel, or plywood are offered as trailer liners.

#### DOORS—AIR AND MOISTURE TIGHT—

Doors are insulated in the same manner as sidewalls and roof. Door edges are trimmed with an exclusive waterproof sponge rubber gasket, which seals the box against air and moisture leakage. A double seal is used when extremely low temperatures are

desired. Four hinges to each door, hung in welded steel frame, cuts wracking and chafing of doors to minimum. Rugged frost-breaker type locks with large paddle-shaped cam, draw the doors tightly closed, and seal off air and moisture circulation to and from the outside. Easy to open under all weather conditions.

fasteners. Three-inch drain trough installed across the front, just aft of the step on step floor trailers, or in the rear of the trailer, according to the customer's special specifica-



Air Circulating Floor

tions. A wide variety of other floors offered to meet special requirements.

**SUB-FLOOR REPELS HEAT—**Aluminum sub-floor reflects heat rising from the street, keeps moisture out and the floor dry. Four to six inches of insulation in the floor also helps to block heat penetration.

**CHOICE OF FINEST INSULATING MATERIALS—**Up to 6 inches of low temperature, rigid cellulose insulation may be used in the floor, sidewalls, ceiling, front wall, and doors. Both rigid, and resilient blanket-type glass fiber insulation of extremely low conductivity also are available to meet specific temperature requirements. Cellulose and glass fiber insulation are vermin proof, moisture and odor resistant.

different types and combinations of ventilators also are available.

**COLD AIR CIRCULATION DUCT—**Aluminum air ducts can be installed to provide uniform air circulation, with a minimum loss of loading space. Air ducts can be installed between longitudinal rails for efficient handling and refrigeration of meat. Corrugated sidewall liners also permit the flow of air when frozen and packaged foods are hauled. Metal and canvas ducts are available, as needed.

**SELECT MEAT RAILS—**Wide choice of meat rail installations of either the longitudinal and transverse type. Rails are designed for efficient air circulation, ease in meat handling, and ready conversion to other types of freight hauling.



Air Ducts and Meat Rails

**LEARN HOW BROWN'S ADVANCED REFRIGERATION DESIGN CAN HELP YOU—**Brown's experienced engineering-thermodynamics group will supply you with actual heat transfer data for specific Brown equipment which answers your problems.

Get all the facts about Brown Trailers' profit-making advantages. Call your Brown distributor now—or mail the coupon below for immediate action!

MAIL COUPON NOW

**Brown ALUMINUM TRAILERS**

BROWN TRAILERS, Inc., Dept. AD-4  
P.O. Box 54, SPOKANE, Wash.

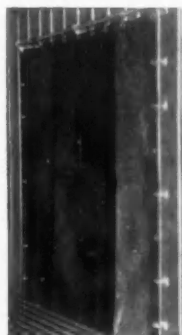
☐ Please Send Latest Information  
☐ Have Your Representative Call

COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

**BROWN'S OVERLAPPING NYLON CURTAINS—**Pliable even at minus 60 degrees Fahrenheit, these curtains make Browns 75 per cent more effective in maintaining desired temperatures during loading and unloading. Another Brown extra.



Nylon Curtains

**AIR CIRCULATION FLOOR —**Deep-duct aluminum floor provides maximum air circulation and drainage. Drain troughs with traps or plugs,

prevent loss of heavy cold air, and waterproof protection is assured by exclusive inter-locking joints, extruded flashings, and hidden

**AIR FLOW LININGS —**Plastic, aluminum, or galvanized steel linings, with vertical corrugations, give maximum air circulation for maintaining uniform temperatures throughout the payload. Other liners are offered, as required, including flat aluminum and galvanized steel, and 1/4" 3-ply plywood. Liners can be coated with a non-toxic layer of plastic, reinforced with glass cloth, to prevent moisture penetration and odor.

**CHOICE OF REFRIGERATION SYSTEMS—**Brown's special design and wide experience combine to offer the cargo carrier the most efficient, economical, and serviceable installation of the many different types of cooling systems. Brown's front end, for instance, is especially designed and constructed for the support of popular mechanical front end refrigeration units, and for ice bunkers. Many

...is not enough!

## NOW IT MAKES SENSE TO DO YOUR OWN TOWING



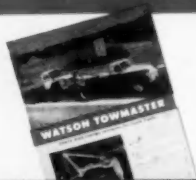
### the NEW Watson Towmaster mounts quickly on any tractor's fifth wheel

With a Watson Towmaster for your fleet, highway breakdowns will cost you a lot less money. You save direct tow charges, of course. But there are other big advantages in having things under your own control. You can tow out a relief tractor to get the payload moving quickly. You put the stranded driver back to work. And you bring the disabled tractor back to your own shop at a low cost per mile.

The Towmaster is heavy-duty equipment rugged enough for all highway breakdowns and most wrecks too — even big three-axle rigs. It provides excellent traction, braking and maneuverability because it puts weight on the tractive axle (or axles).



The Watson Towmaster always works, no matter how long it is stored. It has no hydraulic system to dry out, leak or seize — no electrical parts to fail from moisture or dirt. The Towmaster lifts with a winch and four part line. This simple way is surest and best in any emergency. One man alone can install the Towmaster in as little as ten minutes. One man alone does the towing too.



*For further details on how the Watson Towmaster works, how it is built and how it can save you money, write for descriptive brochure. Dept. B-6.*

**WATSON**

**H. S. WATSON COMPANY**  
1316 67th Street  
Emeryville 8, California

## Fleet Courses

HERE is an up-to-date calendar of fleet training courses for 1957. For complete addresses to write to for further information about the courses listed, see the Fleet Course Directory appearing in the November, 1956, issue, page 314.

### Driver Training

North Carolina State College—One-month long courses begin June 24, July 29, Sept. 2, Sept. 30, Oct. 28, Nov. 25.

### Fleet Maintenance

University of Oklahoma—Sept. 16-20.

Rutgers University (N. J.)—Sept. 30-Oct. 4.

University of Alabama (course will be held in Tuscaloosa)—Oct. 7-11.

Purdue University (Ind.)—Oct. 14-18.

Oregon State College—Nov. 5-7.

### Fleet Operation

These courses usually meet one night a week for about 10 weeks. Where they are planned for cities other than where the sponsoring school is located, the name of the city is shown in parenthesis. Latest available schedule shows the following schools plan such courses but no dates have been set.

University of Kansas (Wichita).

American University (Washington, D. C.).

Ohio Mechanics Institute (Cincinnati).

Purdue University (Ind.).

Syracuse University (N. Y.).

Northwestern University (Ill.).

University of Wisconsin (Milwaukee).

### Fleet Supervisor

Pennsylvania State University—Sept. 9-13.

Purdue University (Ind.)—Sept. 16-20.

Georgia State College of Business Administration—No dates set.

### Terminal Management

University of Louisville (Ky.)—Aug. 5.

Pennsylvania State University—Sept. 30-Oct. 4.

Georgia State College of Business Administration—No dates set.

### Top Management

Tulane University (La.)—Oct. 11.

Northeastern University (Mass.)—Oct. 15.

University of Kansas—No dates set.





## ***"Take good care of it, Al!"***

He will—but it won't help him (or the load) if someone gave him save-a-buck brake blocks. Where safety's concerned, there's no substitute for tested, proved quality. BENDIX\*ECLIPSE blocks mean safe, sure stopping power every time he hits the brakes.

\*TRADE MARK



**Marshall-Eclipse Division**

Troy, New York



## Daily Briefing Tabs Equipment

Continued from Page 79

### Next Is Chief Dispatcher

Next comes the report of the chief dispatcher, Harry Dean. This concentrates on . . .

6. Number of trailers moved during the preceding 24 hours.

7. Trailers loaded and ready-to-

go at each terminal—but without power.

Also covered are the hours the tractors are delayed at each terminal.

Example: The day before these pictures were taken there were 10

such trailers waiting at Denver (first line of equipment status section). From the coded vertical columns it can be determined that three of these are headed for Kansas City or St. Louis, two for Chicago, one for Los Angeles or Phoenix, and four for Seattle. It's up to operations to get the power needed in Denver as fast and as profitably as possible. It may come from the Denver shops, it may come from reserve units, or it may be plotted as in-bound from one or more regular routes.

The dispatcher also gives a summary of . . .

8. All road delays of more than 60 minutes.

9. All trip cancellations by total number.

10. Road delays other than mechanical.

### Third Is Equipment Control

Third and last of the formal reports comes from Roy Sands, superintendent of equipment control. This report summarizes the total operations for the day before. It includes . . .

11. The fleet's "Activity Indicators" with special emphasis on the load factor.

12. Total tonnage and average payload.

It will be noted that on this particular morning, the system carried 4,360,792 lb at a load factor of 75 per cent and an average payload of 26,269 lb. It was not a bad day's output, but often the load factor runs a good bit higher.

13. Transcontinental Freight.

Roy Sands' report usually includes special notations on the company's exclusive transcontinental runs between east coast and west coast cities. It is only natural that division heads want to know how these through-trailer shipments are working out on a day-by-day basis.

After the formal reports, any of the staffers present may ask questions, but they seldom do. That is the best tribute anyone can pay to the way the plan works out. At approximately 8:50 the door is unlocked and the meeting ends as unceremoniously as it began.

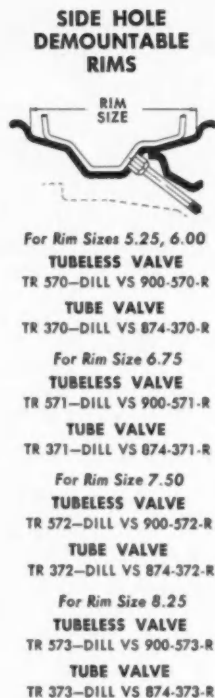
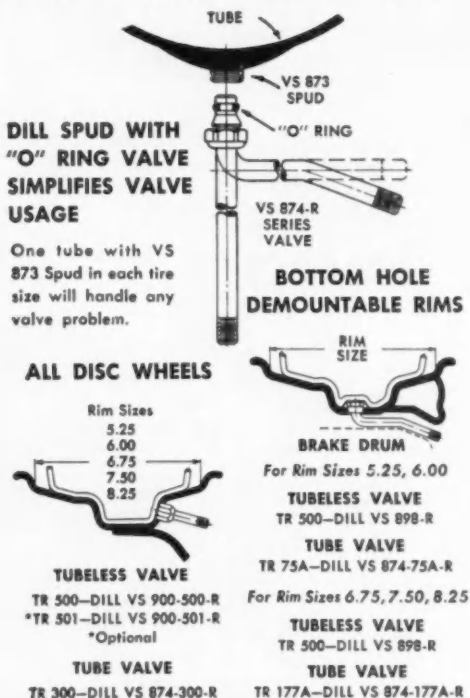
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Please Resume Reading Page 80

## Important!

### "TUBE VALVE" INFORMATION FOR TRUCK DROP-CENTER RIMS

Now tube and valve inventory and mounting problems can be greatly simplified with the Dill "Spud and 'O' Ring Valve" principle. By this method, as illustrated below, a standard Spud vulcanized to any tube will provide for quick, easy attachment of proper size "O" ring valves. Thus only one tube in each tire size is required to handle any possible valve situation for truck drop-center rims. Shown here are the three types of drop-center rims with the proper valve applications. REMEMBER—VALVES ARE DETERMINED BY RIM TYPE AND SIZE . . . NOT BY TIRE SIZE.



THE

**DILL**

MANUFACTURING COMPANY

700 East 82nd St., Cleveland 3, Ohio

# Gates specialized research perfects truck radiator hose that won't flake off

"has virtually eliminated road delays due to radiator hose failure,"  
—says Bryce Allingham,  
Supt. of Maintenance,  
Denver Chicago Trucking Company, Inc.



## A remarkable compound

— the result of Gates *specialized* research — has produced a radiator hose with a tube that has never flaked off in millions of miles of use on hundreds of fleets throughout the country.

Use of Gates Green Stripe Radiator Hose therefore, is saving fleet operators thousands of dollars annually — by eliminating overheating delays caused by hose failure; by saving the costly time it takes to "rod" radiators to free them from crumbles of ordinary radiator hose that goes to pieces under heavy-duty fleet operating conditions.

## Strength without Stiffness

Green Stripe effectively combines heavy-duty stamina and the vibration-absorbing qualities of lighter hose. Sturdy as it is, Green Stripe is easy to install — simply bend and snap it on.

The secret of this unusual flexibility is found in the body cords which spiral around the hose. The type, treatment and positioning of the cords make Green Stripe the most flexible heavy-duty hose on the market.

*The stripe of green — means the tube stays clean.*

## How "green stripe" solves service problems

1. The extra thick, but live and springy tube gives a watertight connection even under extreme conditions — eliminates cold water leaks.
2. Superb flexibility absorbs severest vibration between motor and radiator — insuring longer life for the equipment.
3. Both tube and cover withstand the heat and oil conditions in truck and bus service — are unaffected by soluble oils and other solutions used in radiators.
4. Outlasts — by far — the best hose previously available.

The Green Stripe tube compound is also used in Gates Vibra-Flex Radiator Hose and in Gates Heavy Duty Heater Hose.

Your Gates jobber now stocks Green Stripe Flexible Heavy-Duty Hose and Heater Hose; will supply your requirements promptly.

The Gates Rubber Co., Denver, Colorado

The Mark of  Specialized Research

TPA 136

**Gates** **FLEXIBLE**  
**"GREEN STRIPE"**  
**HEAVY-DUTY** **Radiator Hose**

# This Inland Filler Strip



*provides  
positive  
leakproof  
protection!*

Inland Self-Sealing Strip assures a positive leakproof seal even under extreme conditions! Why? Because Inland's Filler Strip "zips" into a special locking channel after the glass is in place, putting greater pressure on fence and glass.

No matter what your sealing problem, whether it's glass or plastic, flat or curved, fixed or sliding window, Inland Strip requires no special mounting surfaces . . . channels . . . moldings or binders. It is a one-man installation . . . material, time and labor are reduced to a minimum.

Inland Self-Sealing Weather Strip is offered in a wide variety of standard shapes and sizes . . . or may be manufactured to your specifications. When you choose Inland Strip you are assured of a trouble-free permanently-sealed installation. Write for complete details.

## INLAND

*self-sealing weather strip*



INLAND MANUFACTURING DIVISION  
General Motors Corporation, Dayton, Ohio





**1.** Bearing back steel is selected for strength and bonding qualities.

**2.** Pure copper alloy in powder form is sintered to the steel back.

**3.** A brass barrier gives added stability to the lining alloy.

**4.** Lead-tin overplate protects both shaft and bearings during break-in.

**5.** Pure tin flash plating provides overall resistance to corrosion.

## **This is why you get more mileage from Fm sintered bearings!**

One step that can't be shown is the exhaustive research that created the patented, pure metal powder in which each tiny particle is a perfectly balanced alloy of copper (for strength) and lead (for softness)—and the five-layer process of manufacture.

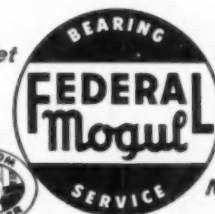
That's why Fm sintered bearings so ably meet the

inside-the-engine conditions created by the combination of load, speed and temperature. That's why they produce more trouble-free mileage on the road. And that's why they are preferred by fleets . . . two to one! Ask your Federal-Mogul Jobber!

### **FEDERAL-MOGUL SERVICE**

Division of Federal-Mogul-Bower Bearings, Inc.

*Fleet*



*Mileage*

RESEARCH • DESIGN • METALLURGY • PRECISION MANUFACTURING • SERVICE



# NOW! TR for Heavy Du

*Ford's new fully automatic transmission provides six forward speeds . . . multiplies engine torque over 14 times for fast getaway and heavy going . . . retards speed on downgrades!*

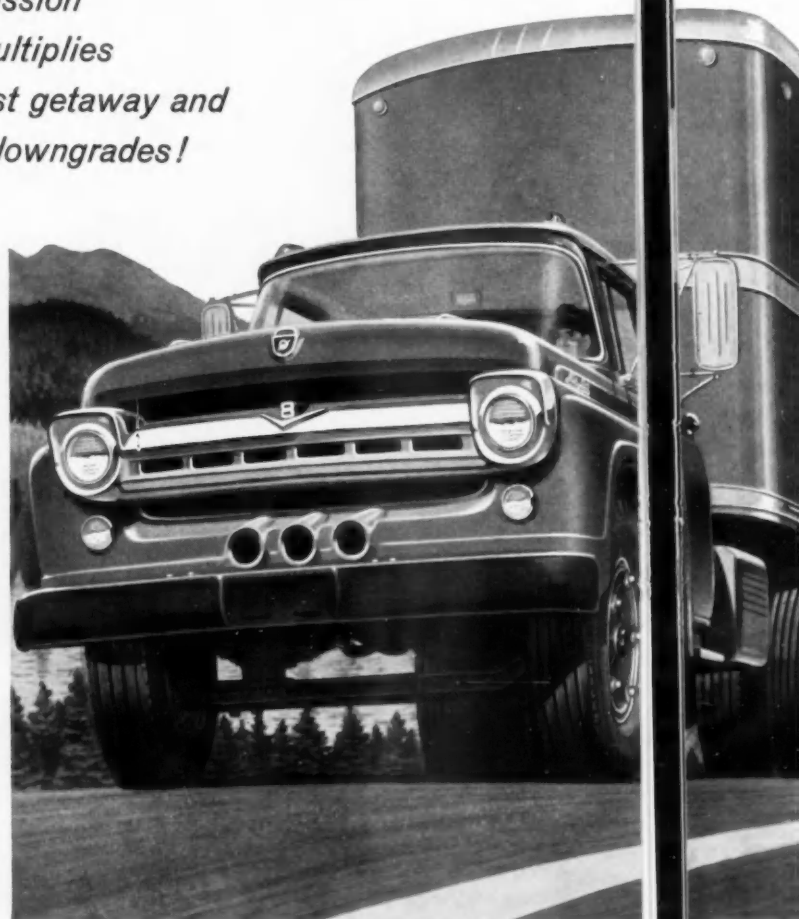
**SAVES WORK!** Just flick Transmatic's control lever to the desired driving range and you're done with shifting! Transmatic Drive thinks and works for you, ending the strain of constant shifting!

**SAVES TIME!** Transmatic Drive keeps loads *moving!* Starting torque is nearly double that of conventional transmissions. It automatically selects the right gear! You get away fast, reach high gear sooner! Transmatic ends shifting lag: maintains momentum!

**SAVES FUEL!** At cruising speeds you operate economically in direct drive with torque converter locked out! Under *all* driving conditions, Ford's new Transmatic Drive keeps engine speed within the most economical, most efficient range!

**SAVES MAINTENANCE!** Transmatic's hydraulic retarder acts as a built-in brake; saves service brakes! Clutch maintenance is eliminated. The power train lasts longer because shock loads are hydraulically cushioned—a critical factor on off-road jobs!

Transmatic Drive is another reason why Ford Trucks cost less . . . less to own . . . less to run . . . last longer, too! Call your Ford Dealer; he'll gladly come out, at your convenience, with full details, including model application data!



#### Easier going up

No shifting lag. Transmatic preserves your momentum . . . automatically!



#### Easier going down

Sure control! The retarder acts as built-in brake; saves service brakes!



#### Easier on the level

No-shift driving in traffic; the right gear always!

# **TRANSMATIC DRIVE**

## **Duty FORD TRUCKS!**

Time-saving, money-saving Transmatic Drive and Ford's Heavy Duty trucks make a tremendous team ready to help you get more work done at less cost. Both are designed and built to last longer and give you a better return on your investment.



## **FORD TRUCKS COST LESS**

...LESS TO OWN

...LESS TO RUN

...LAST LONGER, TOO!

# WHY EVERY COOLING SYSTEM NEEDS A SPRING CHECKUP

## ***Does "rusty" coolant mean danger?***

Yes. It indicates corrosion of the cooling system. After draining old solutions, check to see if extensive deposits have built up. If so, flush vigorously to remove, using a cleaner when necessary.

## ***Does a clean coolant mean inhibitors are still effective?***

No, because rust indicates corrosion only of the iron or steel in the cooling system. Other metals may be corroded without discoloring the coolant.

## ***Where are leaks most likely to occur?***

In hoses and hose connections, and after a severe winter, around loose "freeze-out" plugs. Gaskets, water pump seals, and heater fittings should also be checked.

## ***What else should I check?***

Thermostats should be inspected and cleaned. High-temperature, winter thermostats should be replaced for summer use if manufacturer's specifications indicate. Also check pressure caps for proper operation... fan belts for tension and condition. Replace if necessary.

## ***Should rust inhibitors be used in summer?***

Yes — because they lengthen the life of the cooling system. Fresh water and a good rust inhibitor in a clean cooling system are necessary for summer driving.

## ***What about saving used anti-freeze?***

It's a very poor bargain. Rust inhibitors in winter-worn anti-freeze may be exhausted. Adding new inhibitors to old solutions may cause undesirable reactions... or the inhibitors may become neutralized, making them useless. It's wise to always use fresh coolants.

## ***Anything else before I close the hood?***

After you have refilled the cooling system, start the engine and run until operating temperature is reached. Recheck for leaks, operation of temperature gauge, and possible loss of coolant. Be sure radiator core is free of dirt and insects... blow out with air pressure from engine side if necessary. Remove anti-freeze protection tag.

**Experience shows that your customers believe in and follow your recommendations. You will be doing them the greatest service by recommending cooling system service now.**



**CARBIDE AND CARBON CHEMICALS COMPANY**

*A Division of Union Carbide and Carbon Corporation*

30 East 42nd Street



New York 17, N. Y.



**Last chance! Enter now!**

# win a \$1,000 U.S. Savings Bond OR ONE OF 9 OTHER PRIZES

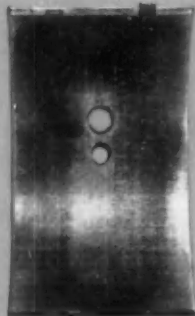


name the mileage on these  
**CL-77 bearings**

Name the mileage on the CL-77 bearings pictured here and you can pocket as much as \$1000 in savings bonds. The closest estimate wins. Nothing to buy . . . no slogans to write. Just send in your estimate on the entry blank below.

This set of famous CL-77 bearings was subjected to heavy duty wear for a substantial number of miles. These copper lead bearings with the precision plated overlay were removed from a truck that saw plenty of rugged service on all kinds of roads, in all kinds of weather. The mileage is not abnormal . . . not for CL-77 bearings. And micrometer tests show wear of only three-ten-thousandths (.0003) of an inch.

Send in your estimate today. It may make you \$1000 richer. And for your heavy duty bearing requirements, remember always to specify CL-77 bearings.



**YOU  
CAN  
WIN...**

*1st prize*  
\$1000 SAVINGS BOND

*2nd prize*  
\$500 SAVINGS BOND

*3rd prize*  
\$200 SAVINGS BOND

*4th prize*  
\$100 SAVINGS BOND

*5th prize*  
\$100 SAVINGS BOND

*6th prize*  
\$100 SAVINGS BOND

*7th prize*  
\$50 SAVINGS BOND

*8th prize*  
\$50 SAVINGS BOND

*9th prize*  
\$50 SAVINGS BOND

*10th prize*  
\$50 SAVINGS BOND

Send entry to:

Thompson Service Sales, CL-77 Bearing Dept. CC  
6402 Cedar Ave., Cleveland 3, Ohio

I believe that the CL-77 Bearings pictured have been in use for

\_\_\_\_\_ miles.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

(Contest closes midnight June 30. Any resident of the U.S.A. may enter except employees of Thompson Products or their advertising agency and their families. In case of ties, entry bearing earliest postmark wins.)

**T<sub>P</sub> Thompson  
Service Sales**

DIVISION OF  
**Thompson Products, Inc.**  
CLEVELAND 3, OHIO



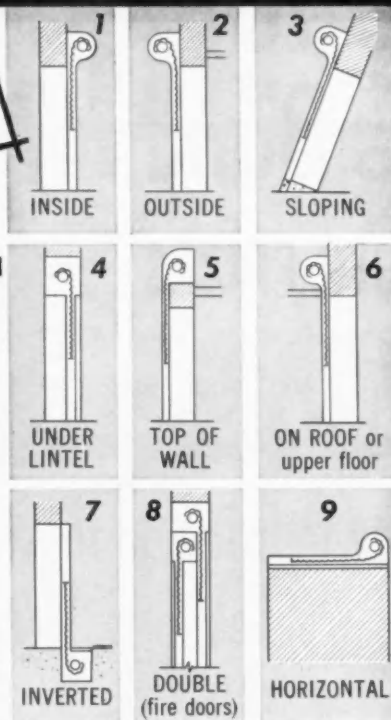
Quick Guide to  
Kinnear Door  
Versatility

# Kinnear Steel Rolling Doors

Whether your door needs are standard or special, Kinnear Rolling Doors offer you more efficiency *more different ways* than any other type of door. For example, the coiling upward action of Kinnear's interlocking steel curtain can be applied:

1. Mounted on inside wall; coils overhead.
2. On outside wall; leaves ceiling clear.
3. Sloping doorway (chutes, hoppers, etc.).
4. Hood under lintel or concealed in wall.
5. Hood above lintel or on top of wall.
6. Hood above roof or upper floor level.
7. Inverted mounting (coil below door sill).
8. Kinnear Rolling Doors (automatic fire type) on both sides of wall for maximum fire protection.
9. Horizontal mounting (openings for observatory, ventilator or similar eqpt.).

In *every* installation, Kinnear Rolling Doors open *out of the way* . . . need no usable space for either storage or operation . . . give extra protection against fire, theft, wind, weather or vandalism. Extra heavy galvanizing assures corrosion-free durability. Built any size. Motor or manual operation. Write for full information!



**KINNEAR**  
ROLLING DOORS  
Saving Ways in Doorways

The KINNEAR Mfg. Co.

FACTORIES:

2100-20 Fields Avenue, Columbus 16, Ohio

1742 Yosemite Ave., San Francisco 24, Calif.

Offices and Agents in All Principal Cities

## "Tubes" Up Capacity

Continued from Page 93

from 1 1/8 in. x 1/8-in. angle irons. The shelves themselves are standardized so they are interchangeable in any of the trucks.

### 50 Per Cent Saving

Kutchins figures the cost per unit at roughly \$200, including all materials and labor. This is 50 per cent less than the unit cost of the previous system. Furthermore, truck capacities have been increased approximately 33 per cent, and in some cases up to 50 per cent. One type of large truck, which formerly held 800 loaves at a time, now can carry 1050 normally and up to 1200 by using floor space beneath the lower bins. Another type of truck, which used to hold between 600 and 650 loaves at a time, now transports 900 loaves without any crowding.

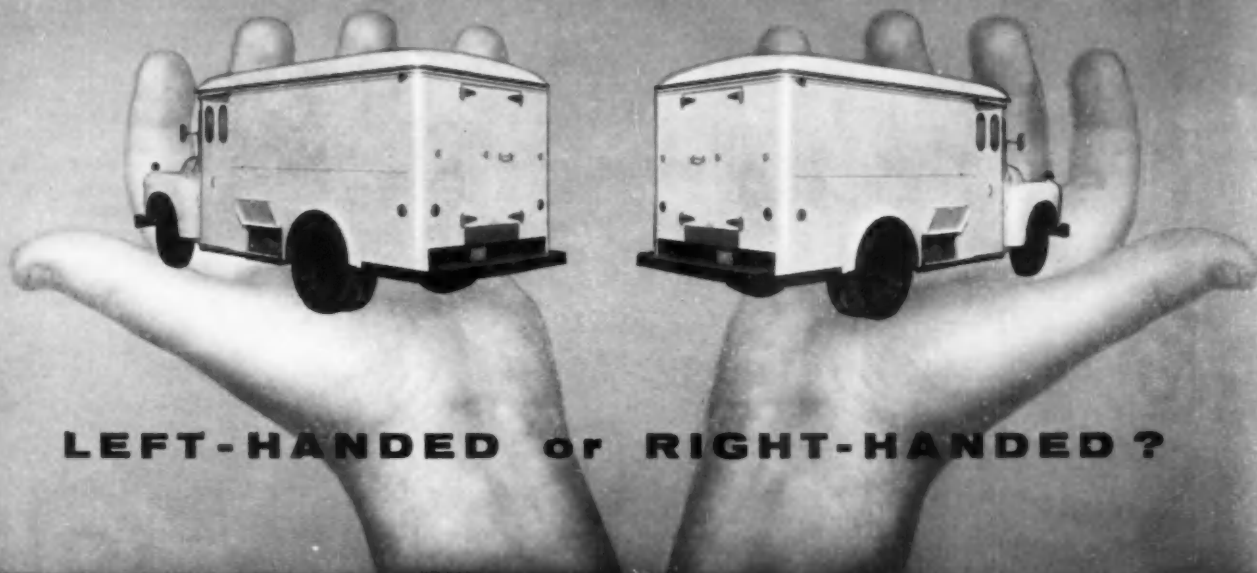
Driver reaction to the new system is characterized by Alexander as excellent. With the old-style truck, they had to load the loaves on trays one at a time. Now a crew of loaders places the tubes of bread in the bins before the drivers even show up for work. They report that the trucks handle lighter now because the heavy metal trays have been replaced.

END

Please Resume Reading Page 94



# HOW DO YOU WANT YOUR TRUCK REFRIGERATION...



**LEFT-HANDED or RIGHT-HANDED?**

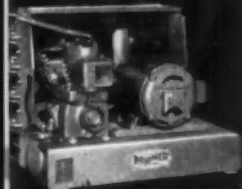
**Get either with**

**BRUNNER-METIC**

## Truck Refrigeration Units



**Brunner-Metic  
Semi-Hermetic Truck  
Refrigeration  
Condensing Unit**



**Brunner Open-Type  
Truck Refrigeration  
Condensing Unit**

Now you can tailor-make your truck refrigeration to suit the space available in your delivery trucks!

Brunner-Metic Truck Refrigeration Condensing Units are now available in two separate designs ... one with components arranged for installation on the left side of the truck, the other for the right side.

Brunner-Metics for trucks are supplied in integral units of 1½, 2 and 3 H.P., and fractional units from ½ H.P. through 1 H.P. Extra bracing and shock-resistant base insure long life and trouble-free performance.

A 3 H.P. Brunner-Metic, using F-22, also is available for low temperature applications.

Write for complete specifications ... or ask for a Brunner representative to call.

**BRUNNER MANUFACTURING COMPANY, UTICA, N. Y.**

The Brunner Co., Gainesville, Ga.

In Canada:

Brunner Corp. (Canada) Ltd., Toronto, Ontario

A complete line of  
Air Compressors  
... from ¼ H.P. to  
50 H.P.... in  
horizontal, vertical  
and base-mounted  
models.



**BRUNNER**  
SINCE 1906

**BRUNNERIZE** for dependable truck refrigeration



## Air Suspension 5th Wheel for Full Trailers Announced

A NEW TYPE of air suspension fifth wheel unit has been developed by A. O. Smith Corp. Designed for front suspension on the rear trailer of a truck train, it eliminates the need for leaf springs on the assembly.

The manufacturer claims the unit will permit higher payloads, reduced maintenance and greater safety and driving ease. It weighs approximately 550 lb, has the fifth wheel assembly integrated into the axle housing.

The new design has been specifically engineered to assure optimum driving conditions with empty truck and trailer as well as with full loads. It consists of two assemblies: the stabilizer assembly fastened to the



trailer frame, and the axle assembly. The latter, consisting of a set of shock-absorbing cushion rings, is housed inside the front axle, which acts in a dual capacity.

### Rubber Cushion Rings

Inside, five pairs of synthetic rubber cushion rings—bonded to steel divider plates—carry the vertical load and absorb the shock. In addition, Neoprene O-rings, in a unique arrangement, absorb all rebound shock.

This assembly, floating in an oil bath, is cased with a protective cover, enveloped by a permanently bonded synthetic rubber cushion-jacket. This absorbs all lateral and longitudinal shocks of the road, controlling the trailer and eliminating road wobble. A center pin links the two assemblies together, providing the axis for turning.



This "Universal" lock can be used on right or left hand installations. It is designed and constructed to withstand hard service usage for a long period of time.

Three point "rattleproof" locking is afforded. Liberal slide bolt travel assures a positive grip on body sills. Constructed of high quality steel throughout.

### \* No. 5624-52 Padlock Type Handle for Van Door Locks

The smooth flowing lines of this husky handle are in keeping with today's body design trends. Flush escutcheon plate mounting face.

Finishes — Plain, Cadmium, Cadmium Lock with Chrome Handle.

Write for the New Eberhard Catalog with complete information and specifications.

\* This handle is included with Universal Door Lock. Can be obtained separately.

**EBERHARD MANUFACTURING COMPANY**  
Evarts Ave. • Cleveland 14, Ohio  
DIVISION OF THE EASTERN MALLEABLE IRON COMPANY

**LONGRUN**

TRUCK BODY  
HARDWARE BY

**EBERHARD**

THE MOST COMPLETE LINE AVAILABLE



"Hey-y-y-y!"





**EAST and SOUTH**

**MIDWEST**

**WEST**

**FAMOUS TRUCK FLEETS  
SPECIFY CUMMINS**



## CUMMINS diesels power



**ARIZONA EXPRESS, INC.**, Tucson, Arizona. Serving the lower portions of California and Arizona with 17 new Cummins-powered White tractors. This growing fleet is characteristic of the many great truck organizations now serving the Southwest area.



**CONSOLIDATED FREIGHTWAYS, INC.**, Portland, Ore. Fast express service between Chicago and major West Coast cities. Over 500 Cummins-powered Freightliners help maintain on-time deliveries.



**MERCHANTS MOTOR FREIGHT**, St. Paul, Minn. 117 NH-powered Kenworths help Merchants keep a tight, fast schedule between Denver, Kansas City, Cleveland, Chicago and St. Paul. This busy fleet averages 11,000 miles per unit per month.



**PACIFIC INTERMOUNTAIN EXPRESS**, Oakland, Calif. One of the largest Cummins users in the country, operating in the western two-thirds of the U.S. Famous in the industry for developing innovations that have become standard for truck operators everywhere.



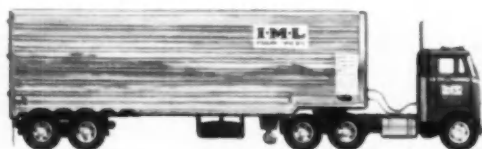
**RICHFIELD OIL CORPORATION**, Los Angeles, Calif. Active in all phases of Western trucking, but specializing in serving the petroleum industry. Operates a familiar yellow and blue tanker fleet of Cummins-powered Kenworths.



**WAGNER TRANSPORTATION**, Twin Falls, Idaho. Runs double rigs between Idaho points and Pacific Coast markets. Rugged Cummins-powered Freightliners permit this operator to deliver cattle to Los Angeles buyers in prime condition.

# more new trucks than all other diesels combined!

Seven out of every eight new diesel engines registered in the Western states during 1956 were Cummins! Proof that now, more than ever, Western truckers rely on Cummins—in all horsepower ranges—for lowest operating costs per mile. Their common experience with Cummins H and NH series engines, records one million miles or more of operation with 275-300,000 miles between rebuilds!



**INTERSTATE MOTOR LINES, INC.**, Salt Lake City, Utah. Express service from Chicago through Kansas City, Denver, Salt Lake City and on to San Francisco and Los Angeles. Cummins-powered Peterbilts maintain on-time schedules in extreme weather conditions.



**NAVAJO FREIGHT LINES, INC.**, Albuquerque, N.M. More than 200 NH Cummins Diesels carry commodities across the country from the Midwest and Southwest to the Pacific Coast. The sign of the "Blue-Eyed Indian" means top-notch service from coast to coast.



**LOS ANGELES-SEATTLE MOTOR EXPRESS, INC.**, Seattle, Wash. 135 Cummins-powered line haul tractors average in excess of 10,000 miles a month. These units hauling a wide variety of commodities, are familiar sights to West Coast motorists.



**UNITED TRUCK LINES**, Spokane, Washington. Veteran Cummins user in the Pacific Northwest. Now operates over 200 Cummins-powered trucks through Washington, Oregon, Idaho, Montana and up into Canada.



**DENVER-CHICAGO TRUCKING COMPANY, INC.**, Denver, Colorado. The Nation's only coast-to-coast carrier. Its fleet includes more than 190 Cummins-powered units. Denver-Chicago's network covers 7,410 miles and serves over 20,000 towns, cities and villages.

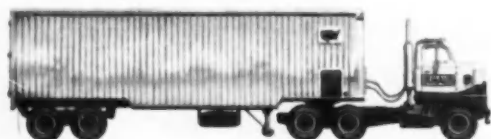


**WILLIG FREIGHT LINES**, San Francisco, California. A Cummins user since 1932. Today, this progressive common carrier trucker operates a total of 52 Cummins-powered units, maintaining an overnight service between San Francisco, Los Angeles and on to Fort Bragg.



## CUMMINS diesels power

more



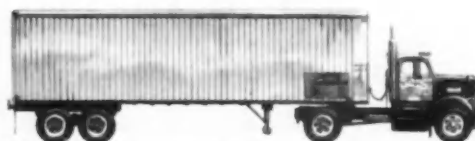
**KNAUS TRUCK LINES, INC.**, Kansas City, Missouri. This veteran Cummins user operates NH-powered International and White tractors on main run express service between Indianapolis and Kansas City.



**CONTINENTAL TRANSPORTATION LINES, INC.**, Pittsburgh, Pa. Operates 65 HRFB-powered Whites from Cincinnati, Dayton, Columbus, Cleveland through Pittsburgh to Baltimore, Philadelphia, New York and New Jersey. Units average 10,000 miles per month.



**REFINERS TRANSPORT & TERMINAL CORPORATION**, Detroit, Michigan. This major petroleum and chemical hauler extends its operations through the Midwestern and Eastern states. Now operating over 65 Cummins-powered rigs.



**ROADWAY EXPRESS, INC.**, Akron, Ohio. Famed "hot relay" service cuts 24 hours from delivery time between North and South terminals. Operates over 140 Cummins-powered Whites and 50 Cummins-powered Internationals keep this service moving.



**SMITH TRANSPORT LIMITED**, Toronto, Ontario. Recently put a new fleet of 90 JT-powered Whites into service. These units battle the rough, unpredictable climate of Northern Ontario and Manitoba on routes extending from Toronto, Ontario to Winnipeg, Manitoba.



**DAN DUGAN OIL TRANSPORT COMPANY**, Sioux Falls, S.D. Operates more than 80 Cummins-powered units over a 5-state area. These units average in excess of 135,000 miles each year. Fuel mileage averages almost 6 miles per gallon.



**MOLAN** carrier wauke Upper 40 of



**DIRECT** bec. R Internate on widely



**EAST** mon o Louis the E ered V



## more new trucks than all other diesels combined!

Cummins offers Midwest truckers a complete line of diesels from 125 to 250 horsepower! This permits the use of the Cummins model most adapted to local load and length regulations. More and more truckers are specifying these popular models: the JT-6-B, HRB-600 and NHB-600. Your local Cummins distributor will help you select the correct Cummins model for your operation.



**MOLAND BROS.,** Duluth, Minnesota. This common carrier serves Duluth, the Twin Cities, Chicago, Milwaukee, Northern Wisconsin, Northern Minnesota and Upper Michigan. Presently operating 80 highway units, 40 of which are powered with 180 h.p. Cummins.



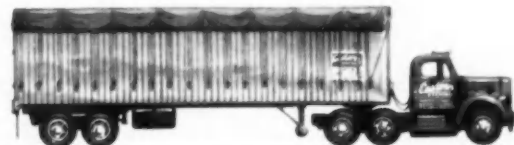
**FRED OLSON MOTOR SERVICE,** Milwaukee, Wis. Keeps a fleet of Cummins-powered Internationals (both JT and HRFB models) busy carrying a wide variety of products to various Wisconsin points. Southernmost terminal for this progressive carrier is Chicago.



**DIRECT MOTORS EXPRESS LIMITED,** Montreal, Quebec. Recently placed a new fleet of 36 JT-powered International RD-225's into service. These units operate on the Montreal-Toronto section of this company's widely spread operations.



**YELLOW TRANSIT FREIGHT LINES,** Kansas City, Missouri. Recently completed the switch from gasoline to Cummins Diesels. 220 units are operating over a network of 8,436 miles, extending from the Great Lakes to the Gulf of Mexico.



**EASTERN EXPRESS, INC.,** Terre Haute, Indiana. Common carrier with 20 terminals in major cities from St. Louis and Chicago in the Midwest to key spots along the Eastern seaboard. Operates 136 Cummins-powered Whites, all with 200 h.p. NH engines.



**HUBER & HUBER MOTOR EXPRESS, INC.,** Louisville, Ky. One of the oldest common carriers giving through service between Chicago and Atlanta. Operates International tilt-cabs powered by 175 h.p. Cummins **TURBODIESEL** engines.

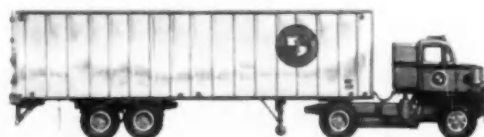


**CUMMINS** has a complete

line



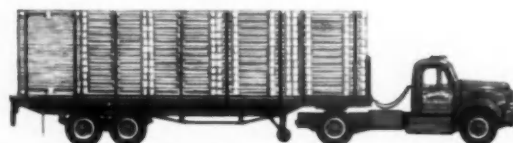
**JOHN SCHUTT, JR., INC.**, Buffalo, New York. Veteran Buffalo trucker specializing in the hauling of cement and heavy industrial equipment. Cummins JT and NH engines furnish the bulk of their automotive power.



**JOHNSON MOTOR LINES, INC.**, Charlotte, N.C. One of the leading commodity haulers in the state, their rigs average over 150,000 miles of service a year. Part of their fleet consists of 111 JT-powered International "sleepers" and 24 JT-powered "space-savers."



**QUINN FREIGHT LINES, INC.**, Brockton, Mass. 53 Cummins-powered Whites keep their overnight service between Portland, Maine, and Richmond, Virginia, running smoothly. Drivers state improved traffic flow helps maintain on-time schedules.



**GEORGE C. RAWLINGS**, Purdy, Virginia. Specializes in hauling wooden loading pallets from manufacturer to Pittsburgh area. Operates a fleet of 10 flat-bed Reo tractors, powered by 175 h.p. Cummins **TURBO-DIESEL** engines.



**BERMAN'S MOTOR EXPRESS, INC.**, Binghamton, N.Y. Common carrier giving overnight service between points in Southern New York State and New England. A Cummins user since 1935 and now operating 30 units in the 175 h.p. to 200 h.p. range.



**BROOKS TRANSPORTATION CO., INC.**, Richmond, Va. One of Virginia's oldest carriers, continuous operations since 1878, via intermediate terminals between Charlotte, N.C. and New York City. Recently added 102 JT-powered Whites to the mainline routes.



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**REFRIG**  
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200 h.p.  
to 150,



**HERR**  
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## line of diesels from 125 to 335 horsepower!

Today, more than ever, the trend is to diesel . . . the choice is Cummins! In 1956, for the fifth straight year, Cummins Diesels powered more new trucks than all other makes of diesels combined—*55% of all diesels registered in the United States!* In the East and South, or wherever you operate, specify Cummins power when ordering new trucks. Standardize on Cummins—the top diesel for every trucking operation!



**THE MASON AND DIXON LINES**, Kingsport, Tenn. This common carrier joins the North and South with 225 Cummins-powered Whites. Operating one of the most modern fleets in the nation, they logged over 25,386,000 pay miles in 1956!



**PILOT FREIGHT CARRIERS, INC.**, Winston-Salem, N.C. One of the largest over-the-road fleets in the nation, Pilot added 103 JT-powered Diamond T's and 31 JT-powered Whites as part of a \$3,250,000 expansion program.



**REFRIGERATED TRANSPORT CO., INC.**, Atlanta, Ga. Fast service for perishables, handled by over ninety 200 h.p. Cummins Diesels. Their rigs average 130,000 to 150,000 miles of dependable service each year.



**SUPER SERVICE MOTOR FREIGHT COMPANY, INC.**, Nashville, Tenn. Keeps over 196 NH-powered Whites busy on a fast freight schedule between the South and the East. Specially designed tractor-engine combination permits extra payload space.



**HERRIN TRANSPORTATION COMPANY**, Houston, Texas. More than 50 Cummins *TURBODIESEL*-powered Diamond T's help reduce trip time and operating cost. Their new "Jet Tigers" carry more payload per trip due to the light weight of the JT engine.



**GREAT SOUTHERN TRUCKING CO.**, Jacksonville, Fla. Common carrier with one of the largest fleets in the country. Member of the Ryder System, with mainline hauls between Jacksonville and Miami. Operates both 175 h.p. and 200 h.p. Cummins Diesels.

## STANDARDIZE ON CUMMINS IN THESE FAMOUS-MAKE TRUCKS!

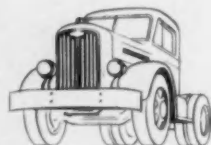
### Get these advantages:

- 17 leading truck manufacturers offer Cummins power in conventional, tilt and horizontal installations in more than 225 over-the-highway models.
- A complete line of Cummins Diesels—ranging from 125 to 335 horsepower—enables you to standardize on Cummins for every highway application.
- Cummins simple, foolproof PT fuel system has fewer parts and costs less to maintain than any other system—gasoline or diesel.

• Cummins Distributors offer complete driver-mechanic training schools where the latest and most efficient diesel operating methods are taught.

• Nearly 300 Cummins Service points make genuine Cummins parts and factory-type service easy to get throughout the United States and Canada.

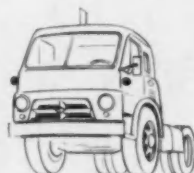
*Your local Cummins Distributor will help you select the correct engine model for your operation.*



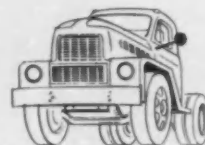
Autocar



Cook



Diamond T



Duplex



Federal



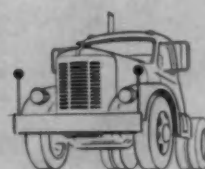
Four Wheel Drive



Freightliner



Hayes



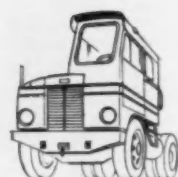
Hendrickson



International (Emeryville)



International (Fort Wayne)



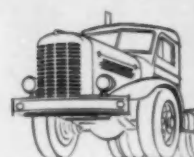
Kenworth



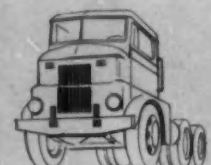
Mack

**CUMMINS**

**MORE PROFIT**



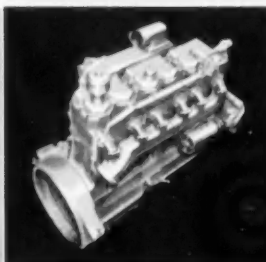
Oshkosh



Peterbilt



Reo



Sicard



White

## CUMMINS ENGINE COMPANY, INC., COLUMBUS, INDIANA

EXPORT — CUMMINS DIESEL EXPORT CORPORATION — COLUMBUS, INDIANA, U. S. A. — CABLE: CUMDIEX  
OVERSEAS FACTORY — CUMMINS ENGINE COMPANY LIMITED — SHOTTS, LANARKSHIRE, SCOTLAND — CABLE: CUMSCOT SHOTTS TELEX



## LP Gas Lift Trucks

Continued from Page 81

additive from the exhaust stream of LP gas powered vehicles.

### There's no more danger

with LP gas than with other fuels when normal safeguards and good maintenance procedures are used. Well-engineered components are essential. Fuel containers must comply with local regulations. The tank should be equipped with a safety-relief valve which by-passes excess pressure and it must have an excess flow valve which automatically shuts off if the flow is too fast. This might occur if a coupling or hose is broken.

Fuel systems should be completely sealed to eliminate fuel leakage or evaporation. Quick-disconnect, self-sealing couplers are important to help prevent gas leakage during tank changeovers.

Since LP gas is odorless, manufacturers add an odorant to aid in the detection of leaks. Often this odor is found in the exhaust fumes and is ignored because it is considered natural. This is a mistake. Odorous exhaust fumes indicate that the odorant is not being burned completely, probably because the fuel mixture is too rich. This should be corrected immediately, not only for more efficient engine operation, but also because the fume odor might prevent detection of a similar odor resulting from a gas leak from the tank or hose coupling.

### While a gas leak is

potentially dangerous, by no means does it indicate an imminent explosion. To illustrate, let us assume that a tank valve has been damaged, resulting in a slow, steady leakage of gas. Ordinarily the leak would be detected either by the odor or by the sound made by the escaping gas. But in this case the leak has not been noticed, and an open flame is accidentally directed to the gas flow.

The result would be not an explosion but a tongue of flame extending out from the valve, much like an acetylene torch. Length of the flame would depend on the pressure be-

(TURN TO PAGE 170, PLEASE)

# UNISTEEL VAN BODIES

*...mass production prices...custom-built versatility*

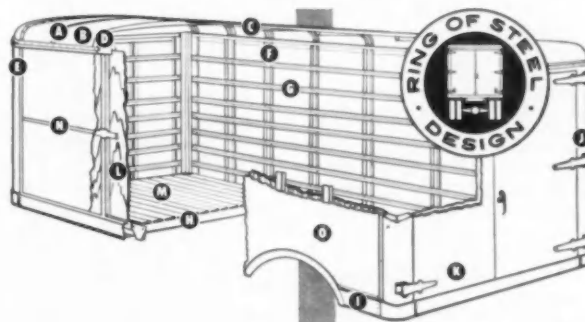


Unisteel straight sill delivery van.

Make Unisteel van bodies your choice! Because Unisteel components are mass produced — then custom assembled to *your* specifications, you can be sure of getting exactly the body you need... and at a price you'll like!

Your local Unisteel distributor will guide your selection of the Unisteel body and optional features combination that offers the most efficient and economical solution to your transportation equipment problems. Call him today!

- full selection of lengths, widths and heights
- sill, wheelhouse, duckbill and insulated types, steel or aluminum
- your choice of side and rear door, tailgate and accessory options



A—coin-pressed roof seams • B—heavy gauge zinc-grip roof panels • C—deep section roof bows—24 in. centers • D—full length roof stiffeners • E—5 in. radius on all exterior curves • F—heavy gauge "hot" section side posts—24 in. centers • G—die formed steel side slats • H—deep

section channel cross members—24 in. centers • I—full length rub rail • J—heavy duty door hardware • K—optional tailgate • L—optional interior lining • M—treated long-life hardwood floor • N—horizontal molding pressed into panels • O—stretcher-leveled panel skin.

AA-5075

Sales and service in principal cities.



**UNISTEEL BODY COMPANY**  
Galion, Ohio

wherever you see them



... trucks are safer  
with *Guide*  
turn signals

Safer—on the road, off the road! And that's only one reason why leading truck manufacturers specify Guide Turn Signals as original equipment! Guide Turn Signals are ruggedly dependable in all weather... meet

state regulations (optically) where required. Guide Turn Signals are your clear signal to safer truck operation, more profitable mileage! Available through United Motors Service outlets and most truck dealers.



Set consists of four lamps, self-cancelling switch... choice of bracket or flush mounting for rear lamps

GUIDE LAMP DIVISION  GENERAL MOTORS CORPORATION • ANDERSON, INDIANA

Cliff  
ready-  
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George Goetz, Clifton's Vice President, is shown at right with John Grimm, Cooper's Truck Tire Sales Manager, as they discuss the Traction-Tread's Gear-Tooth Lugs and special Highway Running Rib.

## Cooper Traction-Treads cut costs 30%, cut "down-time" over 50%!

Clifton Concrete & Supply's 50 ready-mix concrete trucks haul 12-ton capacity loads to off-the-road points around Cleveland, Ohio. They need tires that can carry these killer loads smoothly, safely over the road at higher average speeds and also deliver sure-footed traction on soft, rocky, rutted terrain. Combination service like this could send tire costs sky-high.

Yet, George Goetz, Clifton's Vice President and General Manager, reports a 30% cut in tire costs since changing to Cooper Traction-Treads with "Hi-T" Tension Set Nylon Cord.

### America's Most Versatile Tire

Typical savings like this are reported by dump truck and ready-mix concrete haulers, road builders, school bus and delivery truck operators—even long distance highway haulers who use Cooper Traction-Treads on

the drive wheels of their tractor units. They tell how Cooper Traction-Treads in both "Hi-T" Nylon and Rayon types are setting new combination on-and-off the road service records . . . new mileage records. Reports of 100,000 highway miles or more are not uncommon for this Cooper tire.

### Tire Body Practically Damage Proof

New Cooper Shock-Guard construction gives still greater overall strength—puts up a practically damage-proof defense against bruises, breaks, blow outs. Impact and shock are uniformly distributed over extra layers of cushioning rubber which are built between the top several piles.

Up to 1/3 stronger Cooper "Hi-T" Tension Set Cord Breakers extend beyond the shoulder area, far down the sides. You can count on phenomenal

service, more profitable payloads, plus up to 4 and 5 recaps.

### Top Performance, Lower Costs

Whether you require light or heavy duty sizes, you'll find the versatile Cooper Traction-Tread the industry's best buy—even for long distance hauling! On-and-off the road operators can save 1/3 or more on tire costs—highway haulers will get the lowest cost per mile ever! These savings are as near as your telephone. Call your Cooper truck tire dealer today; or write direct for details. Cooper Tire & Rubber Co., Findlay, Ohio.

miles  
ahead



# Cooper Tires

## A CLOSE LOOK AT TRAILMOBILE'S NEW **LO-LEVEL** VAN



"Jim, here's one of our new Trailmobile Lo-Level vans I've been telling you about. We've been using them for a couple of months now and couldn't be more satisfied. And our shippers feel the same way."

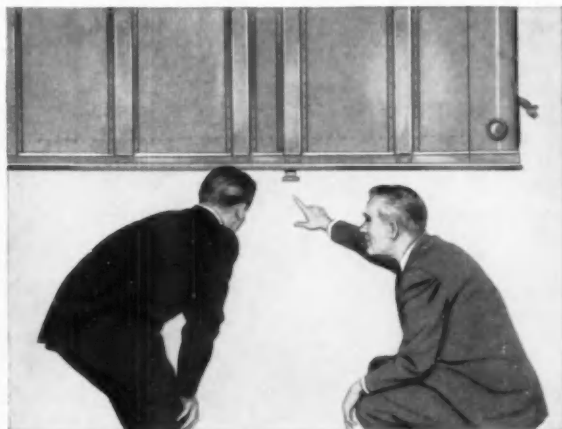


"This gives us more capacity—the kind of capacity we used to think was available only in drop frame vans—but here it's more useful capacity because this trailer has a perfectly level floor. In short, we get extra capacity without the disadvantages of a "drop".



Now, we run lift trucks all the way in. With 98½ inches of loading height throughout the trailer, there's no need for double cargo handling at the front . . . no time lost in figuring how to pack freight around the "drop" . . . no wasted space."





"The big difference in this van is right here — They've replaced the bulky, old style upper fifth wheel with a strong, high tensile steel grid—only 2 3/4 inches thick—including the floor. They call it the Lo-Level upper fifth wheel."



"The new Lo-Level upper 5th wheel — by virtue of its horizontal compactness—has allowed them to eliminate the drop in the floor and provide 98 1/2 inches of loading height from front to rear."



"Sequence-loading is also easier. Because there's no drop to complicate loading we can sequence-load in exactly the order we want. There's no need to put freight—that should go up front—in the back of the trailer simply because it won't fit properly around the drop."



"Lo-Level is a CID\* trailer too! There's a big choice of interchangeable components to meet individual needs—running gear, floors, side panels, corner radii, linings and nose caps. So you get all the advantages of Lo-Level plus the flexibility of CID. We think it's a real good deal."

**CID LO-LEVEL**

*\*Customer Individualized Design*

**TRAILMOBILE INC.**

Cincinnati 9, Ohio • Berkeley 10, California • Springfield, Missouri • Longview, Texas

# 9 out of every 10 RAYON CORD T

*Such popularity testifies to the proven safety, performance, comfort and economy of rayon cord tires!*

Since 1947, truck and car owners have bought more than 700,000,000 tires built with rayon cord. This year another 350,000,000 pounds of super rayon will go into new tires.

As a fleet operator, here's what these facts mean to you:



**1 RETREAD BETTER.** Super rayon's freedom from shrinking and stretching make rayon cord tires the easiest and most economical to retread. Super rayon adheres to rubber more easily than any other tire cord fiber.



**3 LAST LONGER.** With super rayon you get from 7 to 20% better tread wear. Unlike other tire cord fibers, AVISCO rayon doesn't "grow." That means no tread cracking, no "chunk outs" with rayon.



**4 LOW COST.** The many benefits of rayon cord result in low operating costs and more miles per dollar. That means a much better profit picture for you.

**For premium performance at regular price,**

# 10 on the road... TIRES!



**2** **STABILITY AT HIGHWAY TEMPERATURES.** Friction heat can roast your tires right under you. The *average* truck tire running temperature is 300 degrees. Rayon withstands heat better than any other tire cord at running temperatures.

That means a better all-around tire performance on the highways, less down time, and greater operating efficiencies. For safety, dependability, and economy, you can't beat truck tires built with modern super rayon.



**5** **QUIETEST RIDE.** Super rayon is 100% flexible under *all conditions*. It doesn't soften or harden as temperature changes. No overnight flat spots. No bumpy ride.



American Viscose Corporation  
350 Fifth Ave.  
New York 1, N. Y.

## run on super rayon!

# NOW! one man can handle any heavy-duty truck transmission!

## Announcing the revolutionary new **WALKER No. 49 UNI-CRADLE JACK**

for ALL  
transmissions,  
torque converters,  
differentials.



## Slash servicing time and costs as much as 60%

Man hours saved mean man-sized cost reduction. And that's just what the amazing new Walker No. 49 Uni-Cradle was made to do. Take those *extra* men off heavy-duty truck transmission jobs! For the first time, one man—and one man alone—can handle any transmission removal or installation, thanks to the No. 49.

Two unique Walker-developed features make the difference; side control design and the revolutionary tilt control that moves a transmission as little as a hair, as much as 10% off center, in any direction—front, back, right or left! The head pitches forward and backward for spline alignment, tilts to either side for dowel pin and bolt alignment!

As for the side controls: notice how the elevating wheel is placed so the operator can visually align the pilot shaft and still be in comfortable reach of *all* controls.

The revolutionary new Walker No. 49 Uni-Cradle has been pre-tested and approved by the nation's leading fleet service shops and truck manufacturers. See for yourself how much this great new transmission jack can save you in man hours and dollar costs. Just fill out and mail the coupon below:

**WALKER MANUFACTURING COMPANY OF WISCONSIN • RACINE, WISCONSIN**



Adaptor for Allison transmissions goes into place in a jiffy... handles Chevrolet Powermatic and Ford Transmatic with greater precision and ease than ever before possible.

Differential adaptor handles all types of truck differentials (except top mounted)—including double reduction, two-speed and forward drive units of tandem rear ends.



No. 49 has lowered position height of 7 1/4" and large ball bearing wheels for easy, quick dollying in tight under-truck spaces.

WALKER MARKETING CORPORATION • Racine, Wis.

Gentlemen:

Please send me additional information, and name of Walker Distributor nearest me.

Name.....

Title.....

Company.....

Address.....

City..... Zone..... State.....

# WALKER

*World's leading maker of jacks*

Sold and Distributed by Walker Marketing Corporation, Racine, Wisconsin



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Allison  
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plet Pow-  
rdTrans-  
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# DIVCO

*Controls*

STAND DRIVE  
•  
SIT-AND-  
STAND DRIVE  
•  
SIT DRIVE

## *Long-Lasting!* *Money-Saving!* **ROUTE TRUCKS**

● YOU may not be aware of it, but you have seen DIVCOS on your city streets that have actually been in economical daily delivery service for 12 — 15 — 18 years! A new paint job occasionally and they look like new. That's why we retain the same basic Divco styling. If you are uneasy about today's mounting costs for truck maintenance and replacements, you can appreciate the immense savings that rugged, long-life Divcos could effect in your route delivery expense! In every construction detail, we build Divcos that outlast ordinary conventional trucks by years and years. Now available in 19 models, five wheelbases, four engines, in the distinctive Divco basic standard design and the new big load Dividend Series. Businesses everywhere are meeting today's challenge by buying economical long-life delivery equipment — DIVCOS!

### MODELS IN 4 WHEELBASES FOR ROUTE DELIVERY

DAIRIES • FOODS  
LAUNDRIES • BAKERIES  
DRY CLEANERS •  
FLORISTS • PARCEL •  
DEP'T STORES •  
NEWSPAPERS •  
PAINTS •  
CHEMICALS  
AND  
OTHERS

**DIVCO TRUCK DIVISION**  
DIVCO-WAYNE CORPORATION • DETROIT 5, MICHIGAN

Over 80% of all DIVCOS  
built are still in use!



Hot solution at 300 p.s.i. from Malsbary 250 quickly removes stubborn grease, mud, dirt, ice and grime (in winter) from tractor and 38,000-lb. payload trailer.

## How to Reduce Truck Cleaning Costs — Use Malsbary HPC Cleaners

There are two major items in cleaning costs: Actual expense of cleaning, which is 50 to 80% labor; and hauling time lost while trucks are being cleaned. You can cut both with a Malsbary 250 HPC cleaner, just as Mushroom Transportation Co., Philadelphia, does.

Mushroom operates nearly 600 pieces of equipment, including 250 trailers, 95 road tractors, 125 pick-up and delivery trucks. Bulk of hauling is "dirty cargo"—charcoal, hides, oils, paints, cement, chemicals, building materials. Its Malsbary 250 steam cleans insides of trailers and trucks after "dirty cargo" hauls; cleans repair parts and fifth wheels; keeps equipment exterior spic and span; prepares chassis for painting.

"Naturally we're concerned with the big 38,000-pound payload jobs which give us our biggest profits—and we are more than satisfied with the short time the Malsbary 250 takes to clean them up for the next haul. There's no better or more economical way to do this dirty work," says Wm. Cutare, shop superintendent.

### Why Malsbary HPC Saves Time

HPC (meaning high pressure combination) combines pumped hydraulic and thermal pressures, gives you a 300 to 400-lb. cleaning blast, hot or cold, with or without solution. This HPC blast cleans twice as fast as the largest steam vapor cleaner; 4 to 10 times faster than most, easily handles jobs other cleaners can't touch—and at  $\frac{1}{2}$  to  $\frac{1}{10}$ th the cost. HPC cleaners also supply wet steam for degassing and heating; low pressure hot water for rinsing.



Full swivel steam gun with orifice in nozzle, assures straight ahead, hard-hitting stream; makes short work of parts cleaning.



Room K6. 845 92nd Ave., Oakland 3, Calif.

## LP Gas Lift Trucks

Continued from Page 161

hind the gas leak. While the flame itself might cause damage or injury, there would be no explosion damage.

### Such a leak might

result in an explosion if the leak were undetected long enough for a sizeable amount of gas to collect in a closed, unventilated area, such as the bottom of an elevator shaft, and then be ignited.

Some gas usually escapes when fuel tanks are changed, but even this harmless amount can be reduced or eliminated with proper techniques. The shut-off valve on the tank should be completely closed during this operation. After the valve is shut, the fork truck engine should be run till it stops, thus using all fuel remaining in the fuel system. This relieves pressure on connecting hoses leading from tank to metering device. If this procedure is followed correctly, there will be no "phfft" of escaping gas when the tank is removed. Two types of quick-disconnect couplers recently developed eliminate the need for running the engine overtime, and also do away with the "phfft."

### Conversion units for

most fork trucks now using gasoline can be obtained at a reasonable cost. Clark Equipment Co., for example, has a kit for shop conversion to LP gas of all standard Clipper, Carloader, Yardlift 40 and Utilitrac model fork trucks. Owners of large fleets of fork trucks planning conversion will find it pays to have their own mechanics learn how to make conversions. (See "LP Gas Doubles Grocer's Engine Life," CCJ May, page 66.) All components used in conversion should have Underwriters' Laboratories approval.

### Lower costs can

be expected from the LP gas units. Western Carloading Co., Los Angeles, Cal., converted a Clark Dynatork several years ago and reports that the unit operated 8000 hours (TURN TO PAGE 172, PLEASE)

**About to be  
Delivered!**



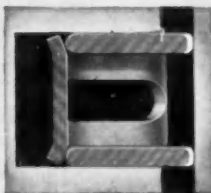
**DELIVERY  
ROOM**

## **American Hammered's new Stainless Steel Oil Ring!**

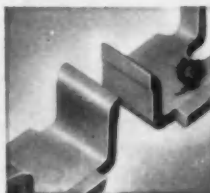
American Hammered Stainless Steel—has no tension loss at any engine operating temperature • actually hardens in use • has far greater life expectancy than any carbon steel • won't corrode or sludge.

**NEW DESIGN CONCEPTS DELIVER PERFORMANCE YOU'VE BEEN WAITING FOR**

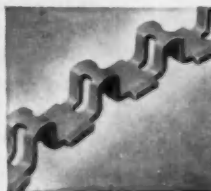
*We're proud ...  
but you benefit*



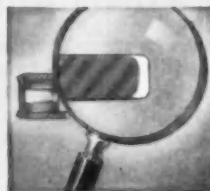
**Side-sealing** because axial pressure of the stainless steel expander forces side rails snugly against sides of groove. This prevents oil waste due to high vacuum.



**No groove backing.** Circumferential pressure of the expander makes the ring conform to the bore without touching the bottom of the groove.



**Maximum oil control.** Uniform high radial pressure against the cylinder wall assures efficient oil distribution.



**Instant seating** is assured by American Hammered's way of chrome plating the side rails. It breaks in fast, has twice the life of ordinary rings.

**ASK YOUR JOBBER FOR FULL DETAILS**

# **AMERICAN HAMMERED**

**AUTOMOTIVE REPLACEMENT DIVISION • 2001 Sanford St., Muskegon, Mich.**  
Manufacturers of American Hammered Automotive Replacement Piston Rings  
*A Division of Sealed Power Corporation*



## TANK TRUCK CLEANING TIME CUT FROM 2-3 DAYS TO 2-3 HOURS!

Lay-up time for the stripping of tank truck interiors between shipments of varnish, resins, soap and various chemicals was a major problem for one trucking firm until they switched from:

### THE OLD METHOD

Tank was filled with water and caustic soda and heated with a steam cleaning machine for 2 to 3 days. Coupled with this was 12 to 18 hours of labor, including hand scraping, until they changed to:

### THE MAGNUS METHOD

A MAGNUS Sprayer with a special long spray nozzle and hose is now mounted to the spare tire rack. Immediately after the operator drains his load, he sprays the interior of the tank with MAGNUSOL solution. This keeps the residue from "setting-up" until the truck returns to the shop for a thorough cleaning. And that thorough cleaning, with a mixture of SUPER MAGNUSOL and Varsol, now takes only 2 to 3 hours including a mere half-hour of actual labor time! And, this new Magnus method is both more economical and less dangerous than the former one!

Why not let Magnus materials, machines and methods save time, money and headaches for you, too? For the answer to any cleaning problem, write Magnus, 38 South Ave., Garwood, N. J.



**AUTOMOTIVE DIVISION**  
**MAGNUS CHEMICAL CO., INC.**

—a world-wide organization specializing in the cleaning and protection of all surfaces.

## LP Gas Lift Trucks

Continued from Page 170

before an overhaul was necessary, and that even then the parts required cost only \$35. The same company incidentally, saves \$128 in oil costs on four trucks converted to LP gas, and reports that the original spark plugs are still being used.

Gerber Products Co. has a fleet of 22 LP gas fork trucks at its Rochester, N. Y., plant. Eight of them were factory built for LP gas operation, the others were gasoline-powered machines converted at a cost of \$175 each. Although the installation was only recently completed, total fleet maintenance costs have already been reduced 15 per cent.

Some time ago the Korhumel Steel and Aluminum Co., Evanston, Ill., converted six of its 16 fork trucks at a cost of \$1410. Seven months later the plant superintendent reported that "LP gas has saved us at least \$1800 in reduced maintenance and repair bills" Maintenance costs on the six converted trucks were lowered 50 per cent; hourly fuel consumption on one carefully watched fork truck dropped from 1.7 gallons of gasoline to 1.3 gallons of LP gas; oil filters last at least three months instead of being changed every two weeks.

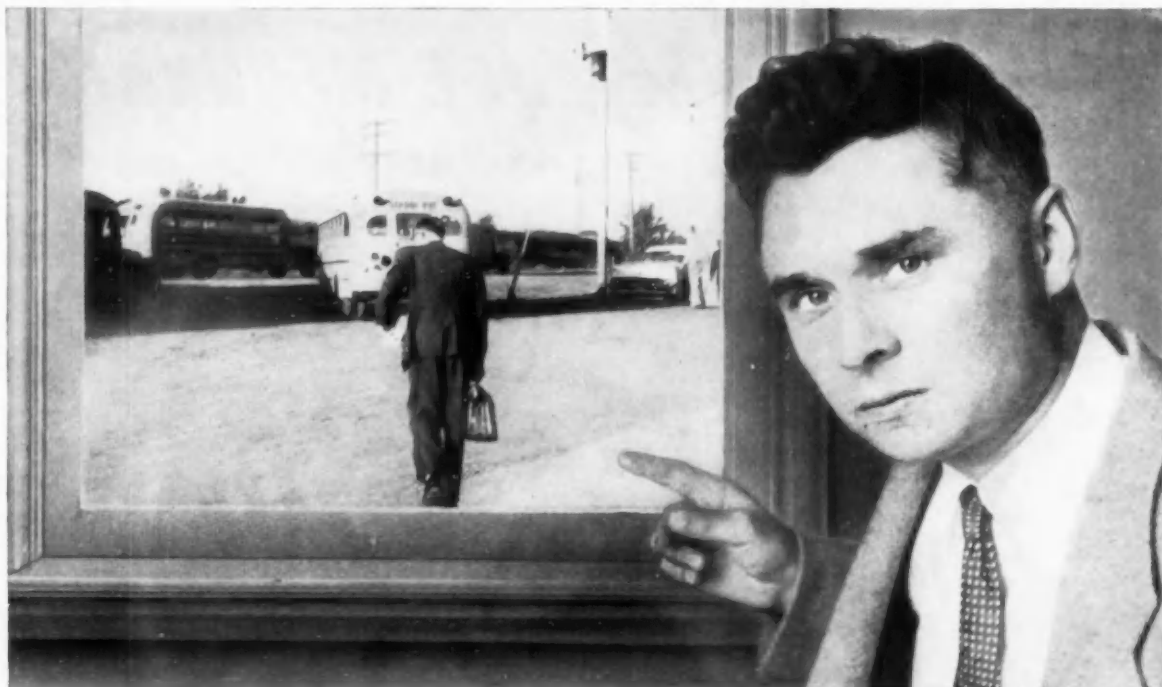
### Before conversion

engines must be put in top-notch shape. It is especially important that pistons, rings, valves and cylinder head are clean and free of carbon deposits. Gasoline, which causes carbon deposits, also acts as a solvent in keeping the deposits from becoming highly abrasive. LP gas does not have this solvent effect, but tends to harden the residual carbon into a very abrasive substance. Therefore a good overhaul, or at least a thorough cleaning, is a necessary preparation for a proper conversion. For this reason a conversion usually will be done most economically at a time when the fork truck is normally due for an overhaul.

END

Please Resume Reading Page 82





## THERE'S MY BIG SECRET!

...and combined with Cities Service, it has really paid off!

That's Martin Walsh talking... President of Columbia Transit Corp., which skyrocketed from four school buses in 1951 to 90 school buses today!

Walsh is no psychologist, but he understands how a woman thinks. How she worries about the caliber of a part-time bus driver. Her worry about the condition and safety of the bus.

First, to eliminate the driver worry, Walsh hired students from a theological college... serious young men eager to earn part-time money, with a talent for handling children.

Response was immediate and enthusiastic from mothers.

Then, to assure top condition and maintenance, Walsh standardized both the make of his buses and brand of fuels and lubricants they use. Cities Service became that brand.

"Immediately," says Mr. Walsh, "our drivers noticed that knock and ping disappeared with Cities Service Gasolene. And with Cities Service C-300 Motor Oil and Trojan H-2 Grease, we soon found that our oil consumption was the lowest ever... and equipment was going far longer between greasings.

**The fact is, we've never had a lubrication failure with Cities Service.** It has contributed immeasurably to our safety record and the growing business we've built upon it."

Whenever safety and economy are paramount, you'll find Cities Service fuels and lubricants in use. A Cities Service Lubrication Engineer will gladly show you all the reasons why. Or write: Cities Service Oil Company, Sixty Wall Tower, New York 5, N. Y.



**Transporting 20,000 Children a Day** is a job that requires the utmost in safety. Columbia Transit assures this safety with theology student drivers and Cities Service products. "Oil consumption is the lowest ever, knock is eliminated, and grease jobs are less frequent," says President Martin Walsh.



# CITIES SERVICE

QUALITY PETROLEUM PRODUCTS



hey, "JOE MECHANIC"

you don't need a magic carpet

to WIN some

MAGIC MONEY



Time is running short, but there's still time enough for you to write those 25 easy, believable words about the most-talked-about tool of today for automotive maintenance and repair. Join the other excited mechanics who are answering this sentence in 25 words or less:

"I prefer an impact wrench with optional TORSION BAR torque control because..."

**DON'T DELAY—ENTER TODAY—***Nobody* has a better chance of winning than YOU do. So enter today, or if you prefer, "get together" and talk it over with your I-R Impactool Salesman.

MAIL  
TODAY

OFFICIAL ENTRY

Tool Of Fortune  
Ingersoll-Rand  
P. O. Box 190, Phillipsburg, N. J.

**I-R MECHANICS' TOOL OF FORTUNE  
\$10,000 PAY-OFF**

"I prefer an impact wrench with optional TORSION  
BAR torque control because \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Mechanic's Name \_\_\_\_\_

Mechanic's Address \_\_\_\_\_

Impactool Salesman's Name \_\_\_\_\_

Impactool Salesman's  
Co. Address \_\_\_\_\_

**YOU CAN WIN ONE OF THESE BIG PRIZES**

First Prize	\$1,000.00
Second Prize	500.00
Third Prize	250.00
Fourth Prize	ST3-C Kit 230.30 value
Fifth Prize	ST3 Kit 216.55 value
Sixth Prize	ST2-C Kit 185.80 value
Seventh Prize	ST1-C Kit 176.30 value
Eighth Prize	ST2 Kit 172.05 value
Ninth Prize	ST1 Kit 162.55 value
Tenth Prize	SUT-A Kit 157.50 value
Eleventh Prize	SUT Kit 130.00 value

**PLUS . . .** 500 Additional Prizes of Impactool Purchase Certificates worth \$15.00 each, on the purchase of either a tool or accessories.

**READ THESE RULES CAREFULLY—**

- Contest open to all mechanics and mechanics' helpers in continental United States.
- Employees of Ingersoll-Rand and our advertising agencies are not eligible.
- Salesmen and countermen employed by Impactool Sales Outlets are eligible to compete for separate cash awards for assisting mechanics.
- All entries must be postmarked not earlier than April 1 and not later than June 30, 1957. Address your entry to Tool Of Fortune Pay-Off, Ingersoll-Rand, Post Office Box 190, Phillipsburg, N. J.
- Entries will be judged for originality and aptness of thought. Judges will be a panel of Editors of Automotive Trade Papers. Duplicate prizes will be awarded in case of ties. Decision of Judges will be final. Entries will not be returned and all become property of Ingersoll-Rand.
- Contest winners will be notified by mail no later than July 31, 1957. Winner lists will be sent to those who send in stamped, self-addressed envelope.
- Each contestant is limited to one entry. If more than one is sent in, only the first entry received will be judged.
- Any contestant who buys an Ingersoll-Rand Impactool or Kit during the period of the contest and then wins one of the Impactool or Kit prizes, may take the cash equivalent of the prize won.

**YOUR I-R IMPACTOOL SALESMAN WILL HELP YOU**

LOOK for your Impactool Salesman. He will show you how this I-R Impactool with Torsion Bar Torque Control makes all other impact wrenches obsolete. He will give you facts about time-saving; eliminating "over-torque"; simple torque setting; reversible power; no clutch; longer tool life, etc.

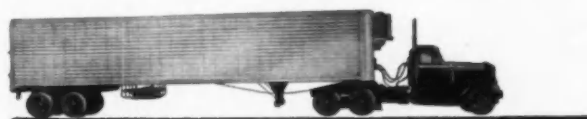
**Ingersoll-Rand**

18-544

11 Broadway, New York 4, N.Y.



# NO ENGINE VARNISH HERE



You *can* prevent harmful engine varnish, sludge, and carbon deposits in your Diesel or gasoline engines! Switch to one of the Sinclair TENOL® Motor Oils... they're specially engineered to combat the effects of high temperature, overloading, and continuous stop-and-go service. Experience has shown that these fine quality oils keep equipment on the job longer — with less wear and fewer repairs!

For positive protection and true economy, use the TENOL grade best suited to your service requirements: —

**SINCLAIR TENOL** — for severe duty in gasoline engines, and moderate duty in Diesels.

**SINCLAIR SUPER TENOL** — for the more-severe-than-usual operating conditions in both gasoline and Diesel engines.

**SINCLAIR TENOL EXTRA** — for extremely severe operating conditions in Diesel engines.

Refill now with Sinclair TENOL Motor Oils. Contact your local Sinclair Representative or write Sinclair Refining Company, Technical Service Division, 600 Fifth Avenue, New York 20, N. Y. *There's no obligation.*

## SINCLAIR

## TENOL MOTOR OILS

# If he doesn't see you...be sure you see him!



## G-E *All-Weather* HEADLAMPS HAVE UPPER BEAMS THAT REACH FAR AND WIDE FOR GREATER NIGHT DRIVING SAFETY

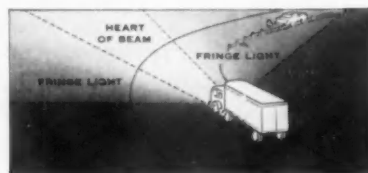
G-E *All-Weather* Headlamps have a powerful upper beam that does more than just reach out for distance. It also throws surround light upward and outward, giving a panoramic view of the road and its surroundings. You see hazards in the headlamp "fringe areas" like the situation shown above.

**SEE BETTER IN FOG, RAIN, SNOW**—On the lower beams, G-E *All-Weather* Headlamps have a special filament shield that blocks uncontrolled up-

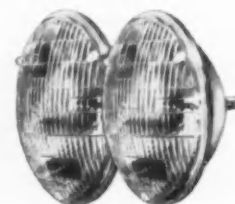
ward light. Older types of sealed beams let this upward light strike moisture particles and bounce back in your eyes.

**TWICE THE LIGHT ON LOWER BEAMS**—Compared with older types of sealed beams, new G-E *All-Weather* Headlamps give twice as much light on the lower beams 300 feet ahead on your side of the road.

**EASY TO AIM—AND FAST**—To get all the light from *any* headlamps, they must



be accurately aimed. G-E *All-Weather* Headlamps have Aim-right Gizmos that help speed-up the aiming job and make it more accurate, too. So switch your entire fleet to pairs of new G-E *All-Weather* Headlamps for every car, truck and tractor. General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland 12, Ohio.



**GENERAL**  **ELECTRIC**



# MIDLAND

## Money-Saving Model 12 Compressor

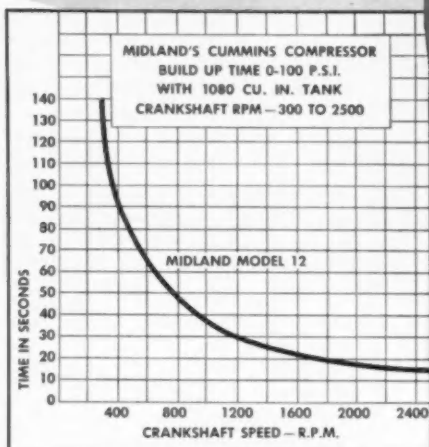
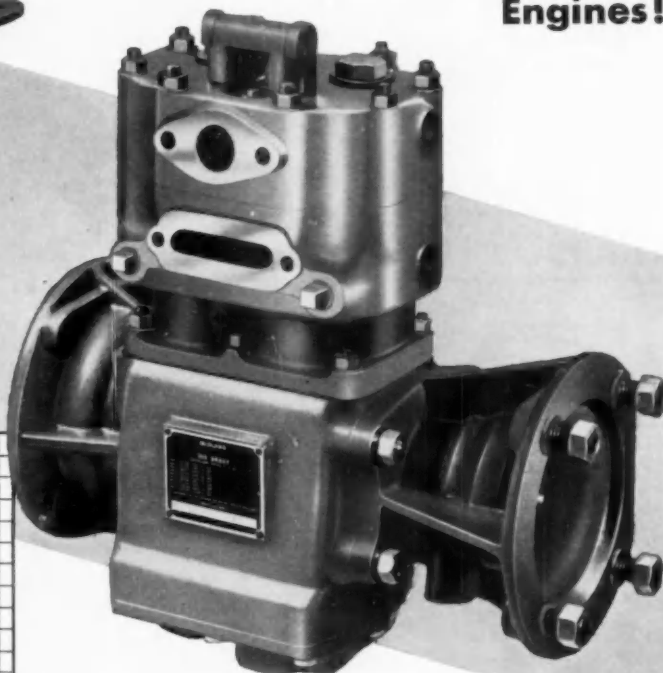
### Now Available For

# CUMMINS

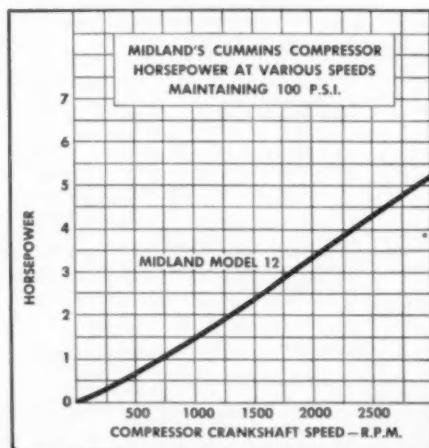
## Engines!



The Midland governor is small, compact, efficient, can be mounted either on the compressor or remotely.



Midland Model 12 Compressor Has Fastest Build-Up Time!



Midland Model 12 Compressor Requires Least Horse Power!

**ALL THE ADVANTAGES** of the Model 12 Midland Compressor can now be enjoyed by truck operators using Cummins engines.

This latest addition to the famous Midland line of compressors is expertly designed and quality built throughout. Amazingly light (up to 1/3 less weight), it requires less horsepower per cubic foot of air, protects against oil passing, runs cooler.

Your nearest Midland Distributor will gladly furnish you with complete information on this new compressor engineered especially for top efficiency and savings with Cummins engines.

**THE MIDLAND STEEL PRODUCTS COMPANY**

OWOSSO DIVISION • OWOSSO, MICHIGAN

Export Department 38 Pearl Street, New York, N. Y.





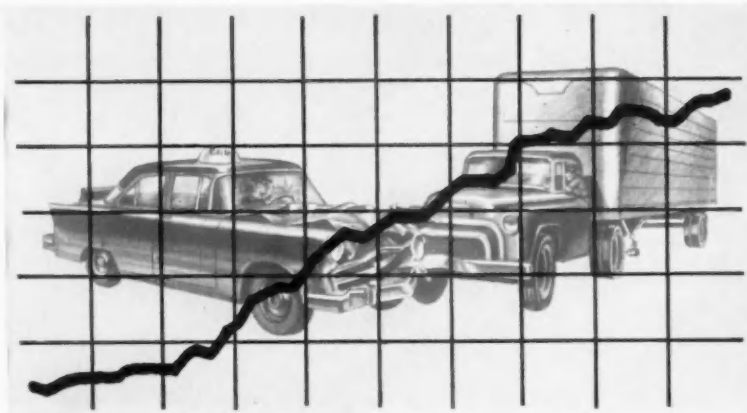
From left—C. N. Bayley, Reo factory branch manager, Albany, N. Y. R. W. Ewbank, Pacific Coast manager, J. B. E.



Olson Corp., New York City. W. W. Siegrist, assistant to the president, Reynolds Mfg. Co., Springfield, Mo.



## HIGHWAY ACCIDENT COSTS CONTINUE TO CLIMB



- Modern styling of trucks and cars makes them more vulnerable to high cost accident damage.
- Present day high horsepower performance lures drivers to drive faster, take greater chances.
- Accident down-time to your expensive equipment is mounting.

### WHAT TO DO?

It is an established fact that governor equipped fleets have fewer accidents. Those they have are less serious. Liability claims are considerably less.

7794



**KING-SEELEY CORPORATION**  
ANN ARBOR, MICHIGAN

## Better Maintenance

Continued from Page 73

taken to see that the chain of movement through the shop is not broken.

One of the most important steps in expediting the work is the installation of a "pre-inspection" routine. Here is the way this works: All buses scheduled for work are shifted from the home garage to the base shop and sent to the "Inspection and Preparation Area" on the night before.

### Inspection Outlines the Work

A highly skilled inspection crew perform a series of checks, tests and inspections, going over the coach from stem to stern. They are guided by an inspection sheet which sets up the routine so that nothing is overlooked. In many cases this results not only in the normal overhaul work load, but may call for additional repairs which are termed "unscheduled" work.

This information is transmitted to the shop superintendent, who plans for the work load. This pre-inspection system thus gives us a complete story on the coach and enables us to adhere to projected schedules.

Another method of expediting work flow through the various departments is the use of a small night crew. This is a team of men who assist in keeping the day crew on schedule by picking up the slack in the evening on any job that is left over.

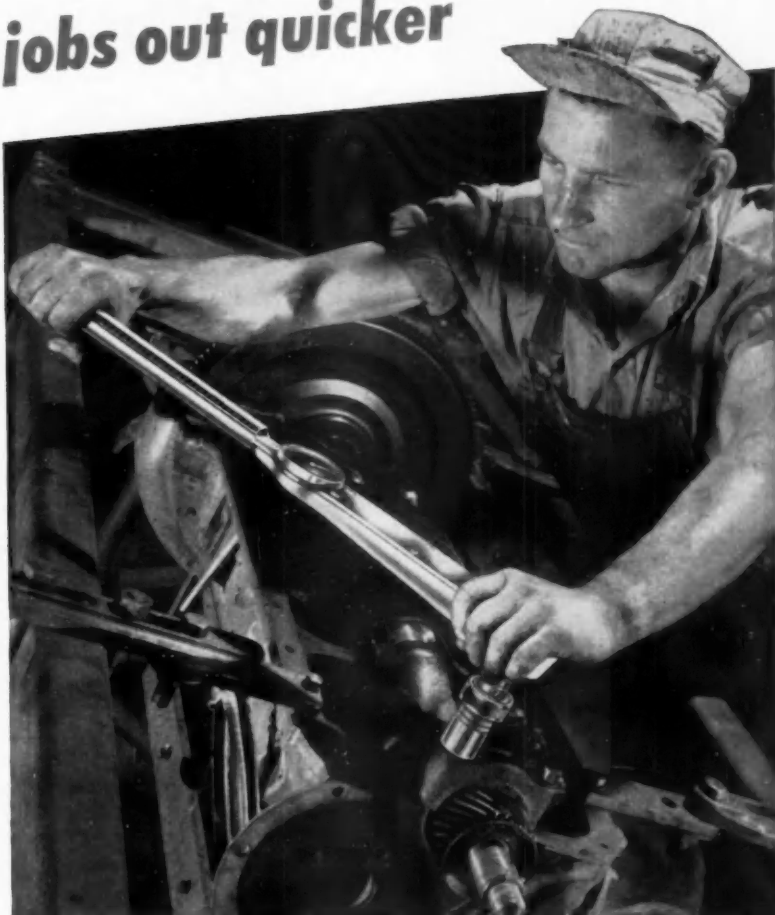
### The Final Check

A very important phase of our planned maintenance is the use of a "finalizing" crew to pull a detailed inspection on the completed coach to see that it is ready for work. This calls for a dynamometer test and a final road test as well. Any defects or omissions are picked up—and corrected—before the coach is released to the garage.

This final inspection accomplishes another objective—that of checking up on our garage main-  
(TURN TO PAGE 180, PLEASE)

**sure, he gets jobs out quicker**

**... but why**



First, this man's a topnotcher—a guy with plenty of savvy—a mechanic who knows an engine inside out—and a little more.

He's your heavyweight—your producer, a pusher who moves your equipment back on the job in a hurry.

But he needs more than just know-how to turn out the kind of work he does. He needs tools—good tools—tools that fit right—tools he can lay into—tools that won't let him down. He knows all about this, too. That's why he settled on *Snap-on* long ago. For his money, tools don't come any better—they never did.

Another thing, this mechanic is pretty close to the *Snap-on* man who calls at the shop. In addition to getting his regular tools, he finds

out all about the timesaving specials *Snap-on* builds to speed up repair jobs—the curved and offset wrenches for slipping into spots ordinary tools can't reach—the tools specially designed for specific operations on particular makes of trucks or buses.

easy payments for hand tools, shop equipment

The better your mechanics are tooled up, the quicker your equipment is back on the road. That's why it's good business to welcome the *Snap-on* man and encourage your men to get the tools they need. *Snap-on* makes it simple, too, with an easy payment plan that covers hand tools, and shop equipment as well. Get the facts from your *Snap-on* man now.

## **SNAP-ON TOOLS CORPORATION**

8026-F 28th Avenue • Kenosha, Wisconsin



## get the INSIDE STORY-

BEFORE  
YOU  
BUY!



## OIL SAVES BEARINGS\$

There's a big difference in methods of sealing oil. Only MECHANEX offers the original patented face type sealing principle, simplicity of installation and lowest replacement cost for maximum fleet savings. So before you buy, investigate carefully... get the best—genuine MECHANEX WHEEL OIL SEALS.

Available on new equipment at all Trailer Manufacturers

Distributed by Trailer Branches and leading Parts Suppliers



1144 Broadway, Denver, Colorado

## Better Maintenance

Continued from Page 178

tenance. We are assured that the coach has left the base shop in top mechanical condition. So there can be no come-back from the garage. If we find that components are failing in service, we can be assured that proper maintenance at the garage is not being followed. Where the conditions of this sort show up, our inspection forms serve as a guide to the superintendent of operations for his corrective action.

### The Schedule Record

We have proved during the last few months that proper scheduling and follow up pays off in more efficient utilization of shop facilities and manpower. Here's how well we have been able to keep to schedules:

Month	Expected work	Produced jobs
September	124	100
October	148	159
November	130	128
December	146	145
January	150	154
February	133	134

### Fewer Failures, Less Cost

Obviously the number of buses produced is not the whole story. The consistency, coupled with the quality of work, is the true indication of our new efficiency. The greatly reduced number of road failures indicates that our equipment is operating in better mechanical condition.

Three years ago, for example, we experienced 2½ times as many service interruptions as we do at this time. At the same time we have reduced maintenance personnel approximately 24 per cent. Notwithstanding increases in the unit cost of labor and the cost of material during this period, we have decreased shop expenses by as much as 16 per cent. That's proof sufficient to us that planned programming of maintenance is mandatory.

END

Please Resume Reading Page 74

## TIRE INDUSTRY AUTHORITIES SAY

## YOU CAN'T MOUNT THE NEW 14" TIRES WITHOUT AN APPROVED LUBRICANT

14" Tubeless tire and rim design and construction is different—tires are built with stiffer beads and fit tighter to the rims. The rims have shallower drop center well and almost all have safety humps. As a result the use of an approved lubricant is not just desirable, but is ABSOLUTELY ESSENTIAL for the safe, efficient mounting and demounting of these tires.

Always use

**RUGLYDE®**

The Approved Lubricant

A MUST FOR SAFE  
EASY TIRE POSITIONING,  
PROPER BEAD SEATING,  
POSITIVE AIR SEALING



An approved lubricant is one that has sufficient wetting, lubricating and film strength properties on rubber, metal, painted surfaces, as well as the right coefficient of friction ("controlled friction") and is harmless to rubber, metal and wheel finishes.

Always be sure... use RUGLYDE... the only industry-wide APPROVED tire lubricant. It removes the risks in handling all sizes and types of tires and rims; increases your efficiency and profit.

R-334

### NEW TUBELESS TIRE INSTRUCTION BOOKLET... NOW AVAILABLE!

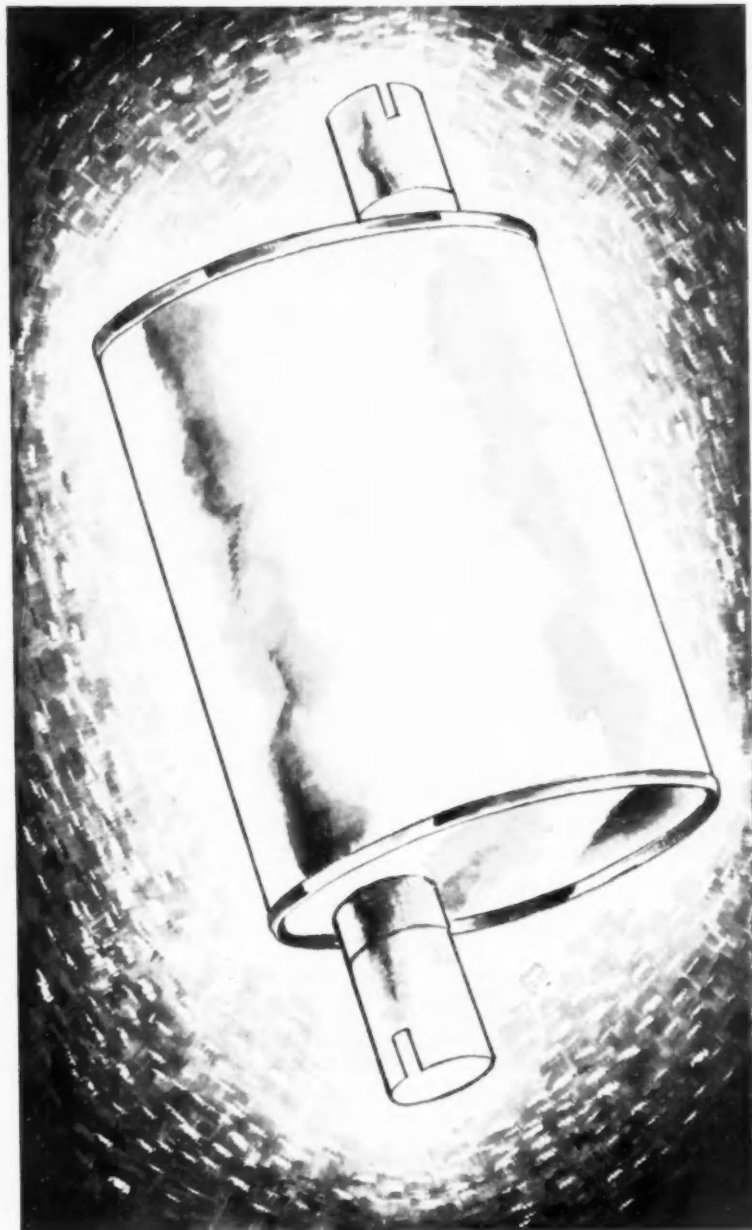
Write for free copies of the new, 12-page booklet, "Simply Awful or Awfully Simple". Describes and demonstrates the correct procedure for servicing all types and sizes of Tubeless Tires, including the new 14" and 15" wheels.

AN  
**AGS**  
PRODUCT

AMERICAN GREASE STICK CO.  
MUSKEGON, MICHIGAN



# Armco ALUMINIZED STEEL Beats Muffler "Burn-Out"



Truckers have long said that mufflers fail because they "burn out." And, according to recent road and laboratory tests of truck mufflers on both gas and diesel engines, that is exactly what happens. High heat causes scaling of ordinary muffler metal, thins and weakens it—actually burns it up. The same tests show that truck mufflers made of Armco ALUMINIZED STEEL® resist attack from heat much longer than ordinary carbon steel mufflers. The reason: At muffler temperatures, the aluminum coating on ALUMINIZED STEEL alloys with the base metal, forming a tight refractory surface layer that stands up to heat. At the same time, it resists attack from corrosive gases.

That's the major reason why ALUMINIZED STEEL lasts so much longer than ordinary steel in truck and auto mufflers.

## Fleet Reports 5 Times Longer Muffler Life

One trucker, for example, reports that mufflers made of Armco ALUMINIZED STEEL on his fleet of 140 diesel tractors, have averaged more than 5 times the life of carbon steel mufflers previously used.

These longer-lasting mufflers help the fleet gain maximum revenue by cutting downtime and reducing muffler replacement costs.

If you'd like to know where you can get extra long-lasting mufflers made of Armco ALUMINIZED STEEL, just fill in and mail the coupon.

### Armco Steel Corporation

1367 Curtis Street,  
Middletown, Ohio

Where can I get mufflers made of  
ALUMINIZED STEEL for:

- ☐ Trucks and tractors  
☐ Autos

Name \_\_\_\_\_

Firm \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

## ARMCO STEEL CORPORATION

1367 CURTIS STREET, MIDDLETOWN, OHIO

SHEFFIELD STEEL DIVISION • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION





# DANA PRODUCTS put **POWER**



## DANA PRODUCTS Serve Many Fields:

**AUTOMOTIVE:** Transmissions, Universal Joints, Propeller Shafts, Axles, Powr-Lok Differentials, Torque Converters, Gear Boxes, Power Take-Offs, Power Take-Off Joints, Clutches, Frames, Forgings, Stampings.

**INDUSTRIAL VEHICLES AND EQUIPMENT:** Transmissions, Universal Joints, Propeller Shafts, Axles, Gear Boxes, Clutches, Forgings, Stampings.

**AVIATION:** Universal Joints, Propeller Shafts, Axles, Forgings, Gears, Stampings.

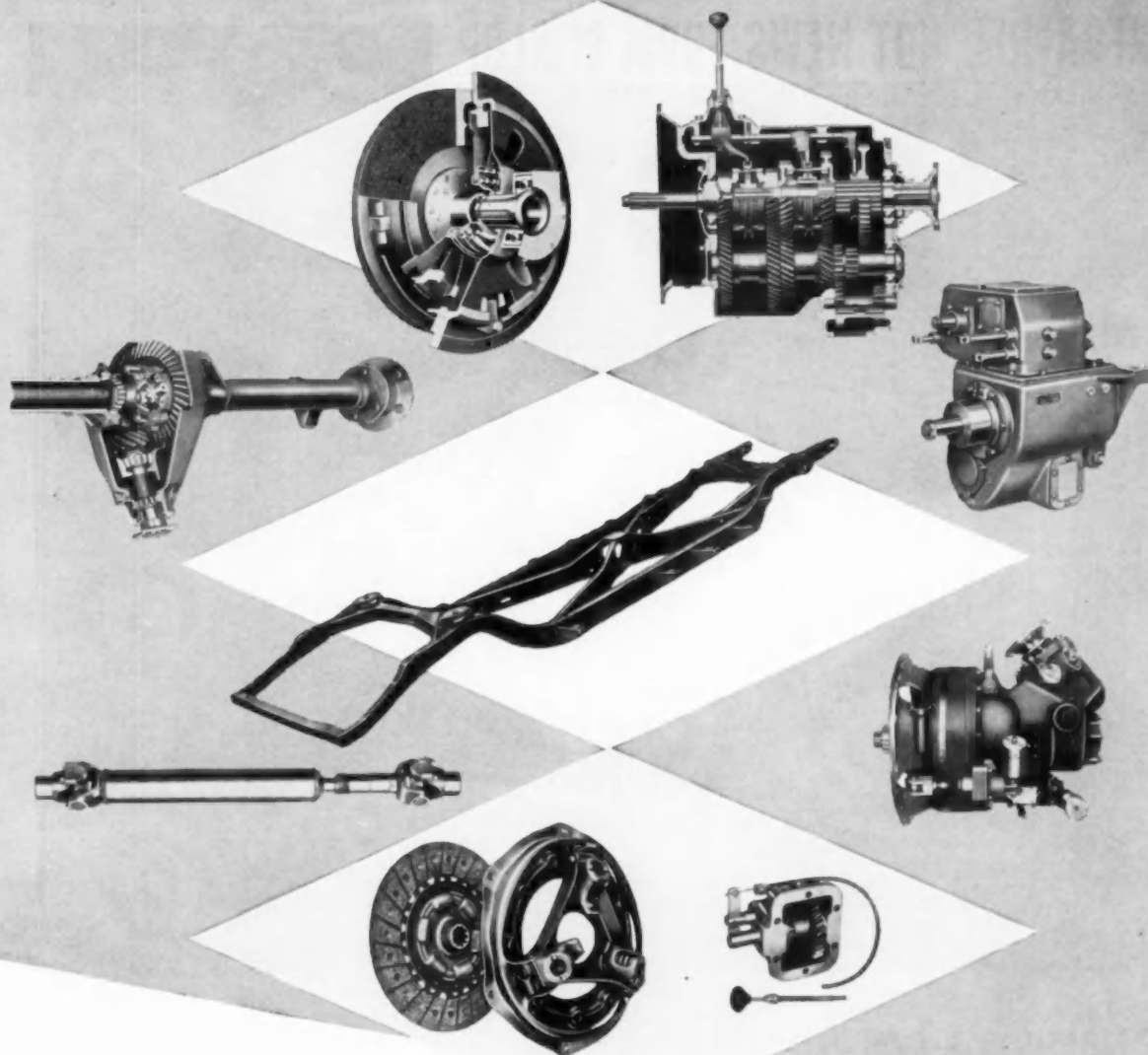
**RAILROAD:** Transmissions, Universal Joints, Propeller Shafts, Generator Drives, Rail Car Drives, Pressed Steel Parts, Traction Motor Drives.

**AGRICULTURE:** Universal Joints, Propeller Shafts, Axles, Power Take-Offs, Power Take-Off Joints, Clutches, Forgings, Stampings.

**MARINE:** Universal Joints, Propeller Shafts, Gear Boxes.

*Many of these products manufactured in Canada by Hayes Steel Products Limited, Merritt, Ontario*

## DANA CORPORATION



## to work in the construction industry

In 1915, 1 million workers produced 5 billion dollars worth of new construction. In 1956, 4 million workers produced 62 billion dollars worth of new construction . . . a 300% increase in productivity per man!

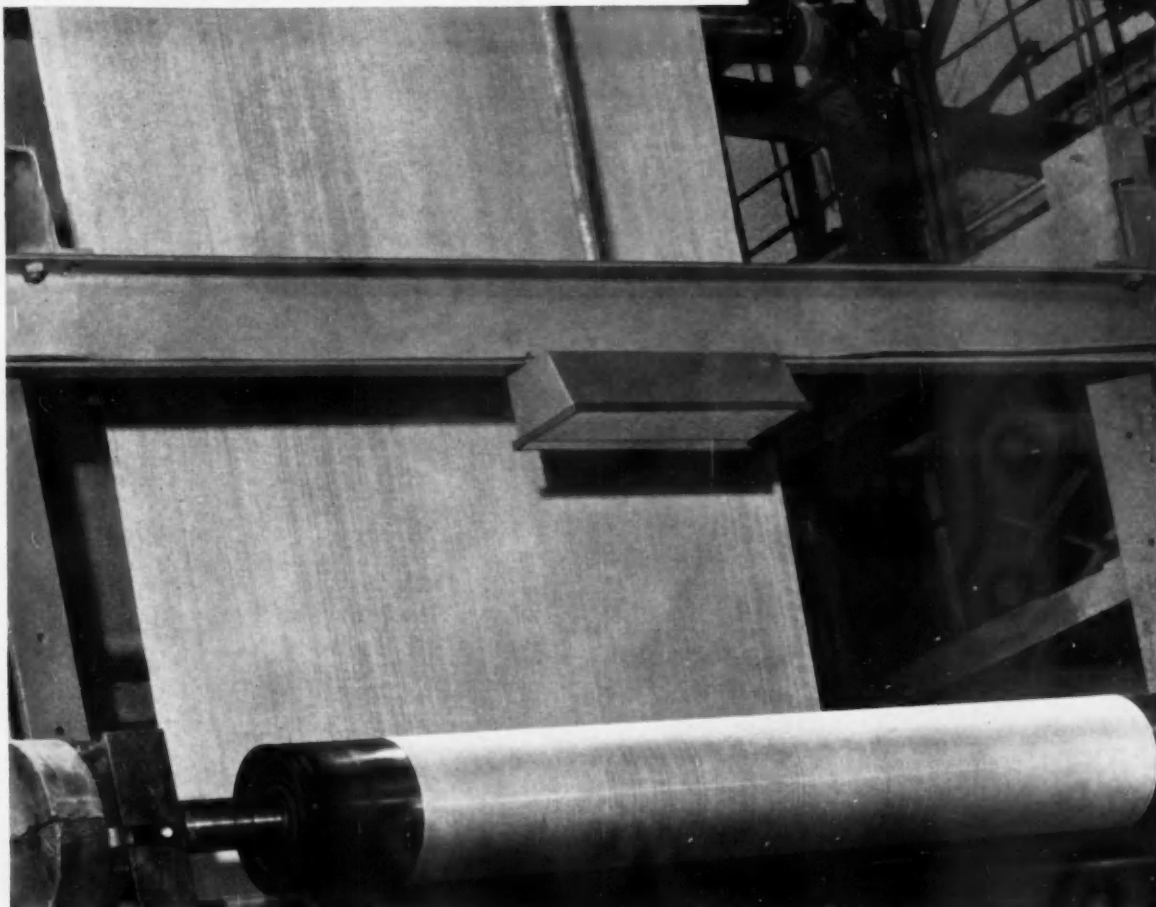
*Mechanization* is the answer. *Mechanization* that pushes, pulls and hauls billions of tons of construction material with equipment using Dana Corporation products: Spicer Clutches, Transmis-

sions, Auxiliaries, Torque Converters, Universal Joints and Propeller Shafts, Axles, Power Take-Offs, and Frames.

Dana has furnished power delivery equipment to every type of mechanized vehicle since 1904. Today there are 10 Dana Corporation plants strategically located in the United States with exceptional engineering and manufacturing facilities.

**Toledo 1, Ohio**

## INFRA-RED HOT NEWS FROM DUNLOP



### DUNLOP...first with INFRA-RED for new strength in nylon tires

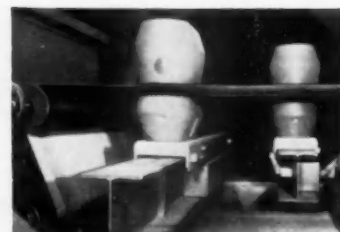
Adding to an impressive list of major tire-building advances, Dunlop is the **FIRST** and **ONLY** tire manufacturer in the industry to increase the native strength of nylon tires through Infra-Red tempering.

Now...nylon cord, stretched and heated under deeply penetrating infra-red lamps, achieves a high degree of strength and stability never approached by outmoded oven-heat processes.

Combined with Dunlop's AccuRay and other advanced quality control techniques, this unique and revolutionary process makes Dunlop nylons the **STRONGEST** on the road today.

Test these "new strength" nylons on **YOUR** equipment...watch original mileage and recap recovery go up...while costs-per-mile go down. Available in tubeless or tubed, for on or off-the-highway service.

*Dunlop's AccuRay...a new atomic process which precisely controls cord ply thickness. Only EXACT amounts of protective rubber are uniformly applied to Dunlop plies. As a result...Dunlop tires are stronger...SAFER...better-balanced.*



You'll go farther...safer...on tires by

**DUNLOP** —they're  
**AccuRated**

DUNLOP TIRE and RUBBER CORPORATION, BUFFALO 5, N. Y.

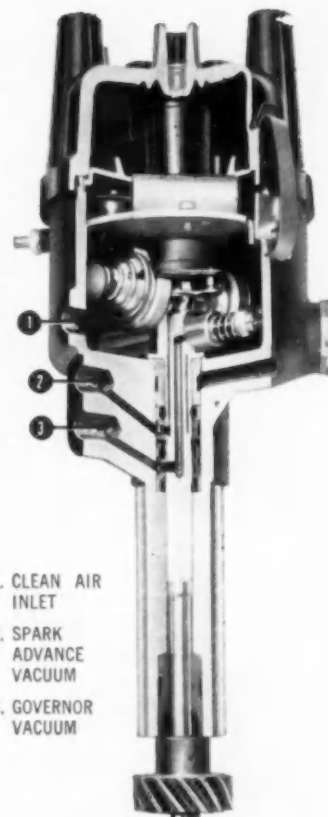


## How Holley Teams Carburetor — Governor — Distributor For a New Kind of Power Control System

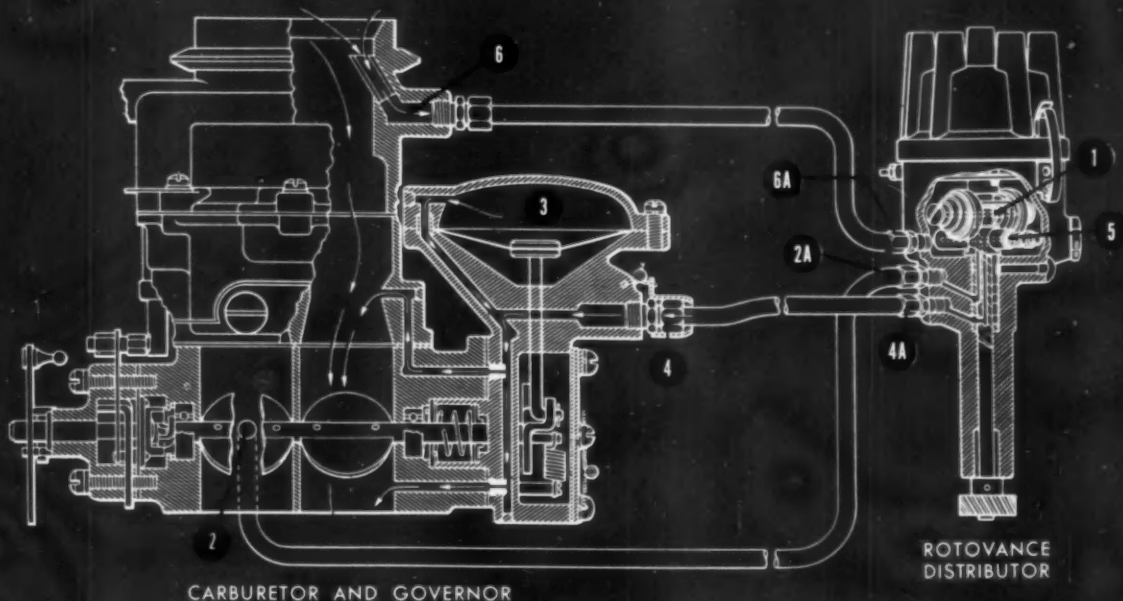
The Holley "team" of carburetor, governor, and the new rotovance distributor provides positive engine control under all load and operating conditions. Engineered and designed as a power control system, each unit is coordinated with the other so that all conditions of speed and load are measured throughout the entire operating range. The result: better economy, more power, and better engine regulation from cut-off to load point than with non-coordinated units.

This new Holley "team" is only one of the many engineering advances Holley has contributed to the automotive and truck industries. And it's one example of the many reasons why more and more car and truck manufacturers are "looking to Holley" for power control systems.

**HOW IT WORKS:** The distributor centrifugal spark advance, determined by weights (1) is supplemented for part throttle operation by vacuum measured at the carburetor throttle body (2) and connected to the spark advance diaphragm through inlet (2A). Vacuum for operating the governor diaphragm (3) is obtained from the carburetor at (4) and connected to the centrifugal control valve (5) through (4A). Clean air, drawn from the carburetor air horn (6) is taken into the distributor at (6A). Governing is accomplished when engine speed causes the valve to close, which shuts off the air bleed and permits the vacuum from port (4) to develop a throttle closing force on the diaphragm.



NEW ROTOVANCE DISTRIBUTOR



CARBURETOR AND GOVERNOR

ROTOVANCE  
DISTRIBUTOR

**HOLLEY**  
*Carburetor Co.*

FOR MORE THAN HALF-A-CENTURY—ORIGINAL EQUIP-  
MENT MANUFACTURERS FOR THE AUTOMOTIVE INDUSTRY

11955 E. NINE MILE ROAD, VAN DYKE, MICHIGAN

T-7

# Lumber Fleets Cooperate for Safety

Continued from Page 71

"because such a program always reaches a good listening audience."

## Training Drivers

The most dangerous fault of truck drivers, according to Curtis, is fighting traffic — following too closely, trying to pass, ignoring

safety cautions, exhibiting over-confidence and aggressiveness. Second most dangerous is neglect of equipment. Poor maintenance is the basic cause of mechanical difficulties, and drivers who ignore danger signals are guilty of criminal carelessness. As an example

Curtis cites the traffic death two years ago of a well-known Portland business man. The truck that killed him had 51 violations against it.

Bad brakes, according to Curtis, are the chief source of mechanical failure on log and lumber trucks. The second point in his preventive maintenance program is frequent checking of the steering. Next, he advises watching the kingpins. "If the truck steers hard without any visible reason, check the pins," he recommends.

At company-sponsored drivers' meetings, Curtis stresses the black record of the industry in the past, explains the causes of accidents, and attempts to get drivers to alter their habits in the direction of safety and courtesy.

## Courtesy Program

"The best public relations man for the entire industry is the driver who stops a log truck to help a stalled motorist," he declares. However, he warns, drivers who have a tight schedule to follow should help only in desperate situations. "It is better not to stop than to drive like an idiot to make up time lost by stopping," he asserts.

Some companies have an established policy of driver help to any motorist in need. For example, the Indian drivers for the Warm Springs Lumber Co., which holds logging contracts on the Warm Springs Indian Reservation near Mt. Hood stop almost every day to help someone and have made wonderful changes in the public attitude.

Curtis himself has made many "Good Samaritan" stops on his journeys around the state. For example, in one week he put out a fire in a passenger car, towed another car 14 miles to the nearest garage, provided gas for a stranded traveling salesman, and straightened out some "map-happy" motorists who had lost their way. He carries a remarkable assortment of first-aid supplies and emergency repair materials, most of it donated by cooperative dealers, in his panel truck.

OTTO is strictly non-political in organization. Under its by-laws it is forbidden to spend money on ef-

(TURN TO PAGE 197, PLEASE)



### THE STRENGTH AND ENDURANCE OF THE BARTLETT 5th WHEEL IS NO MYTH

**14" & 24" Lifting Heights**  
Reinforced to Carry Any Weights with Little or No Service  
Less Parts to Lubricate  
Pays for Itself by Labor Saving in 90 Days  
Saves Repairs to Trailers

**New Piggy-Back Model Spotting 5th Wheel With Latest Added Improvements**  
New long forks to make easy pick-up alignment and over-ride  
New 4 bearing hinge 5th wheel — no sideways  
New air chamber to eliminate diaphragm replacements  
New jaw safety lock — un-breakable  
New unit designed to reduce repairs and lubrication

**Weights 1150 lbs. — upper fifth wheel so reinforced to double life expectancy — especially where rough treatment is common. Hand grease gun furnished.**

**AMONG THE MANY USERS**

Campbell "44" Express  
City of Chicago  
Safeway Stores  
Consolidated Freight Company  
Denver Chicago Trucking Company  
Dahm Transfer Company  
Frear Motor Transfer Co.  
Frighliner Corporation  
Fruit Belt Motor Service  
Gateway Transp. Company

Gordon's Transport, Inc.  
Edward Kline Lumber Company  
Huber & Huber  
Illinois California Express  
Interstate Motor Frl. System  
The Kroger Company  
Oscar Mayer & Company  
Mid-State Frl. Lines  
National Mamas  
National Tea Company

Hightower Frl. Service  
Olson Transp. Company  
Pacific Intermountain Exp.  
Pennsylvania Truck Lines  
The Rail Trailer Company  
Saginaw Transfer Co.  
Southern Pacific Transp. Co.  
Spector Motor Service  
United States Army & Navy  
The Willett Company



**ADAPTER TO FIT FULL AUTOMATICS**

**CONTROLS • VACUUM OR AIR OPERATED**  
IT CAN BE INSTALLED BY A LOCAL DEALER IN YOUR CITY OR IN YOUR OWN SHOP  
PRINTS FURNISHED FOR INSTALLATION

**BARTLETT TRAILER CORPORATION**  
3080 ARCHER AVE. • CORNER OF ASHLAND • CHICAGO 8 • VIRGINIA 7-1160



#3650 Chuck Gauge  
This new chuck gauge is setting all-time performance records. Install several.

#7184 Blow Gun  
A hundred uses for this handy Schrader gun.



*Good fleet shop practice pays off with*



#8159 Dual Foot Chuck  
Service even the largest duals without skinning knuckles!

#3332 type Airline Filter  
Use a Schrader airline filter—save money—protect your air tools.

#8052 type Couplers  
Make any air outlet as convenient as your electrical service outlets.

## GENUINE SCHRADER AIR SERVICE EQUIPMENT

Quick, handy Schrader Air Products speed and simplify many jobs your fleet requires. Use them for improving your shop practices, like this:

1. **Install extra airlines** at strategic shop points so air is always at your fingertips, saving steps and time.
2. **Make full use** of the complete line of Schrader Accessories — blowguns, chucks, chuck gauges, adapters . . . they're handy for service anywhere in your shop.
3. **Make certain tire pressures** are accurately kept and checked with genuine Schrader Gauges before vehicle goes out on the road. Seal air in with Schrader Caps and Cores. Insure against flats on the road that cost money—catch them in the shop.

Another money-saving Schrader Air Accessory is a Schrader airline filter—installed at each major pipe outlet it keeps out oil, rust, moisture—protects valuable air equipment.

**Improve your shop practices with  
Genuine Schrader Products—  
order from your supplier.**

A. SCHRADER'S SON • BROOKLYN 38, N. Y.  
Division of Scovill Mfg. Co., Inc.

**Schrader**  
a division of **SCOVILL**

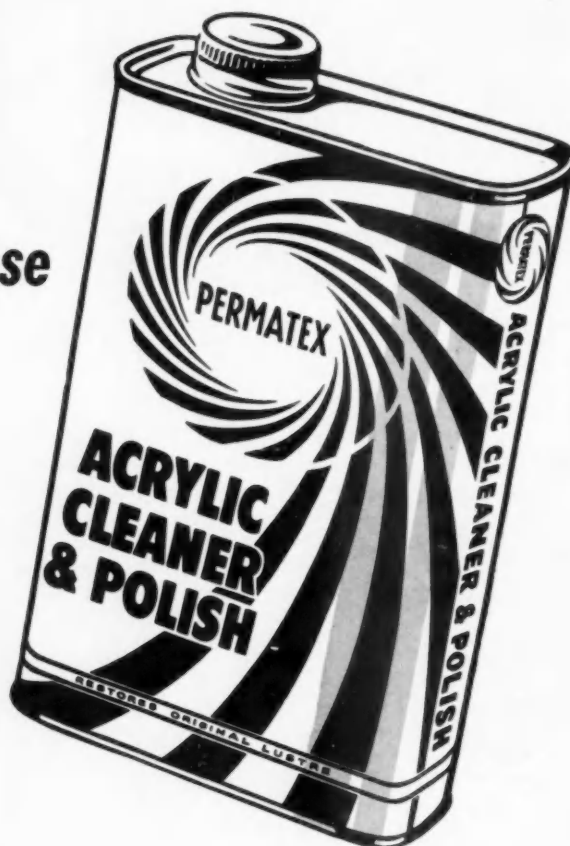
FIRST NAME IN TIRE VALVES  
FOR ORIGINAL EQUIPMENT AND REPLACEMENT

# Now PERMATEX Offers You The SAFEST ACRYLIC CLEANER MADE

**New**  
**PERMATEX Acrylic**  
**Cleaner and Polish**  
**requires no elbow grease**

Permatex Acrylic Cleaner and Polish contains "feather touch" abrasives which restore life to acrylic finishes, "heal" tiny nicks and blemishes. It *can't scratch or craze acrylic finishes as conventional cleaners do.*

**Needs no elbow grease!** Just wipe it on and rub lightly. Wax need not be applied — *the luster is in the acrylic resin itself.*



Don't run the risk of damaging customers' cars!  
Order Permatex Acrylic Cleaner and Polish from  
your jobber now.

*Contains no waxes or oils to gum up the finish!*

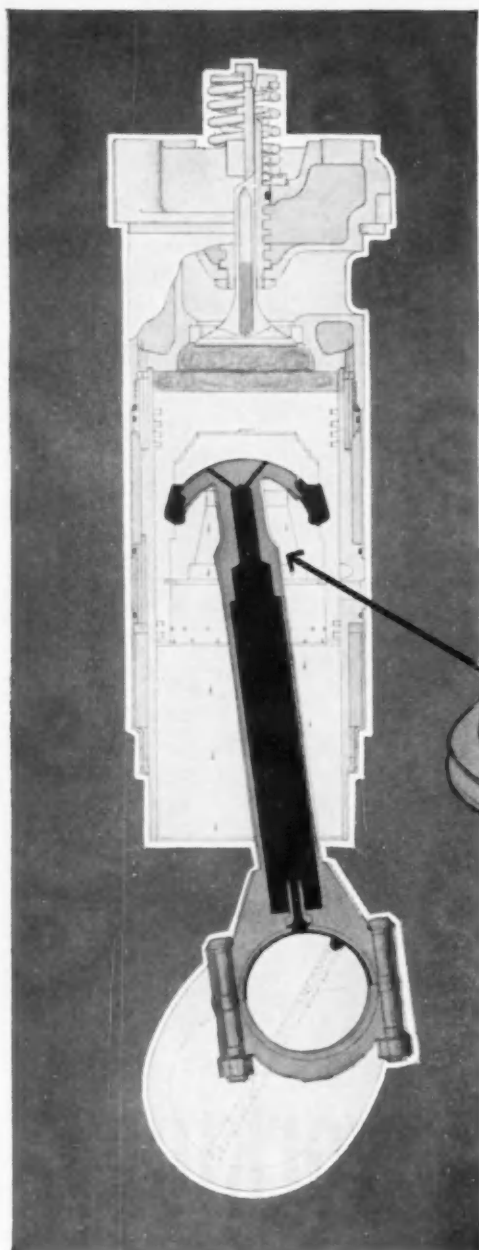


**PERMATEX**  
**COMPANY, INC.**

General Offices:  
300 Broadway, Huntington Station, N.Y.

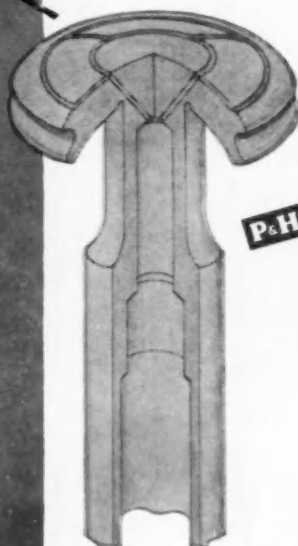
Factories:  
Brooklyn 35, N.Y., Kansas City 15, Kans.





another **P&H** first!

## MUSHROOM CONNECTING ROD and PISTON ASSEMBLY



exclusive with  
**P&H** HIGH-OUTPUT  
AUTOMOTIVE DIESEL

Check these performance  
and maintenance advantages:

- Improved lubrication
- 2 1/2 times larger bearing area
- Uniform distribution of wear
- Better heat dissipation
- Longer ring and piston life
- Better oil control



P&H Automotive Diesels available in 3, 4, and 6 cylinder models from 144 to 280 H.P.

It's new. It's different. It's a product of P&H advanced engineering and design. It's still another reason why P&H Diesel users experience *maximum* performance with *minimum* operating and maintenance costs.

# HARNISCHFEGER

**P&H** Diesel Engine Division • Crystal Lake, Illinois

“Don’t look for  
**WHITES**  
idle in yards  
or shops . . .



**They’re always out working!”**

**...WITH BIGGER PAYLOADS...GREATER EARNING POWER  
...AND GREATER DEPENDABILITY**

“Keep ‘em rolling—1957 style!” means higher mileages—faster schedules—maximum payloads. It’s all part of today’s trend to keep costs down—revenues up!

It emphasizes two important requirements for your equipment purchases:

**FIRST**—Look for reserve strength and exceptional quality when you buy trucks. How much dependable service can you get—for how long?

**SECOND**—Pick the truck that affords you the best in service facilities. It’s not the number of service stations, but rather, having the parts in stock to fit the

trucks you have in service—the right parts at the right place at the right time.

More than ever before, today’s operating conditions call for an investment in White Quality.

Ask the operators with Whites in their fleets!

Then find out for yourself! Go White and you’ll keep ‘em rolling . . . 1957 style!

**THE WHITE MOTOR COMPANY**  
Cleveland 1, Ohio



## THIS NEW **WHITE** IS TYPICAL — ENGINEERED FOR TODAY'S "MAX" MILEAGES AND PAYLOADS

The Standard Oil Company of Ohio now has this new White 9000 for petroleum products deliveries from terminals to stations. Check these points in terms of extra earning power:

- Improved Use Factor—minimum down time—to service longer routes—make more deliveries per day.
- Drivers say the new Whites make the driving job a lot easier — save time on maneuvering — cut schedule time.
- 90-inch dimension (front of bumper to back of cab) and 28-inches (front of bumper to center of front axle) of White 9000 tractors permit maximum gallonage tankers within over-all length limits and advantageous load distribution.
- White Dependability and Quality because of sound engineering, best of materials and workmanship keep Whites in service years longer—at lowest maintenance cost.
- Costs per gallon delivered are kept down because of functional design of Whites. Gallonage delivered per hour has gone up as costs have gone up.



*For More Than 55 Years The Greatest Name In Trucks*



## ALL-STATES FREIGHT, INC., SPEEDS CUSTOMER SERVICE WITH BENDIX DYNA-COM TWO-WAY RADIO



All-States' driver John Pratt makes on-the-road call to terminal office to check new orders.

Early this year All-States Freight, Inc., decided to evaluate two-way radio as a means for improving customer service and cutting costs. The site selected was the Southboro, Massachusetts, terminal, one of 14 "nerve centers" in All-States' nationwide system—a system employing some 700 tractors and trailers. Initially, 20 trucks were equipped with Bendix\* Dyna-Com Quiet-Line mobile receivers and transmitters

having 60-watt output power. The dispatcher was provided with a Bendix 250-watt remote-control Base Station. Here are the results:

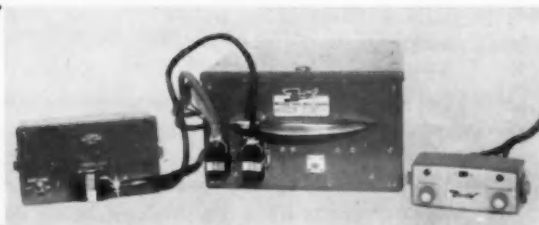
**Mr. Paul E. Livingston, Terminal Manager:** "It's really wonderful. The drivers like it and customers are delighted with the faster service. We can't imagine how we ever got along without it."

**Mr. William S. Lambert, Dispatcher:** "I used to hang on the telephone all the while. Now I find time for other work. I often 'hit' a driver on the radio just as he's leaving a plant where we have another pickup. That saves time and speeds service."

**Mr. John Pratt, Driver:** "It's done wonders to ease our work load. The Bendix Dyna-Com is easy to operate, and that Quiet-Line feature makes it real private. There is no static either. Best of all, though, we fellows aren't spending half our time looking for a telephone."

These are typical reactions. A Bendix Dyna-Com installation—tailored to your own particular needs—will improve the quality of your service and save you money also. For full particulars—or a free consultation with our communications experts—write to Bendix Radio Division, Mobile Sales, Baltimore 4, Maryland. \*REG. U.S. PAT. OFF.

Bendix Quiet-Line unit, at left in illustration, can be plugged into any existing Bendix Dyna-Com mobile communication unit. Only Bendix Quiet-Line provides optional tone-coded or conventional squelch operation. Dash-mounted control unit at right.



### Bendix Radio Division

Mobile Radio Sales • Baltimore 4, Maryland

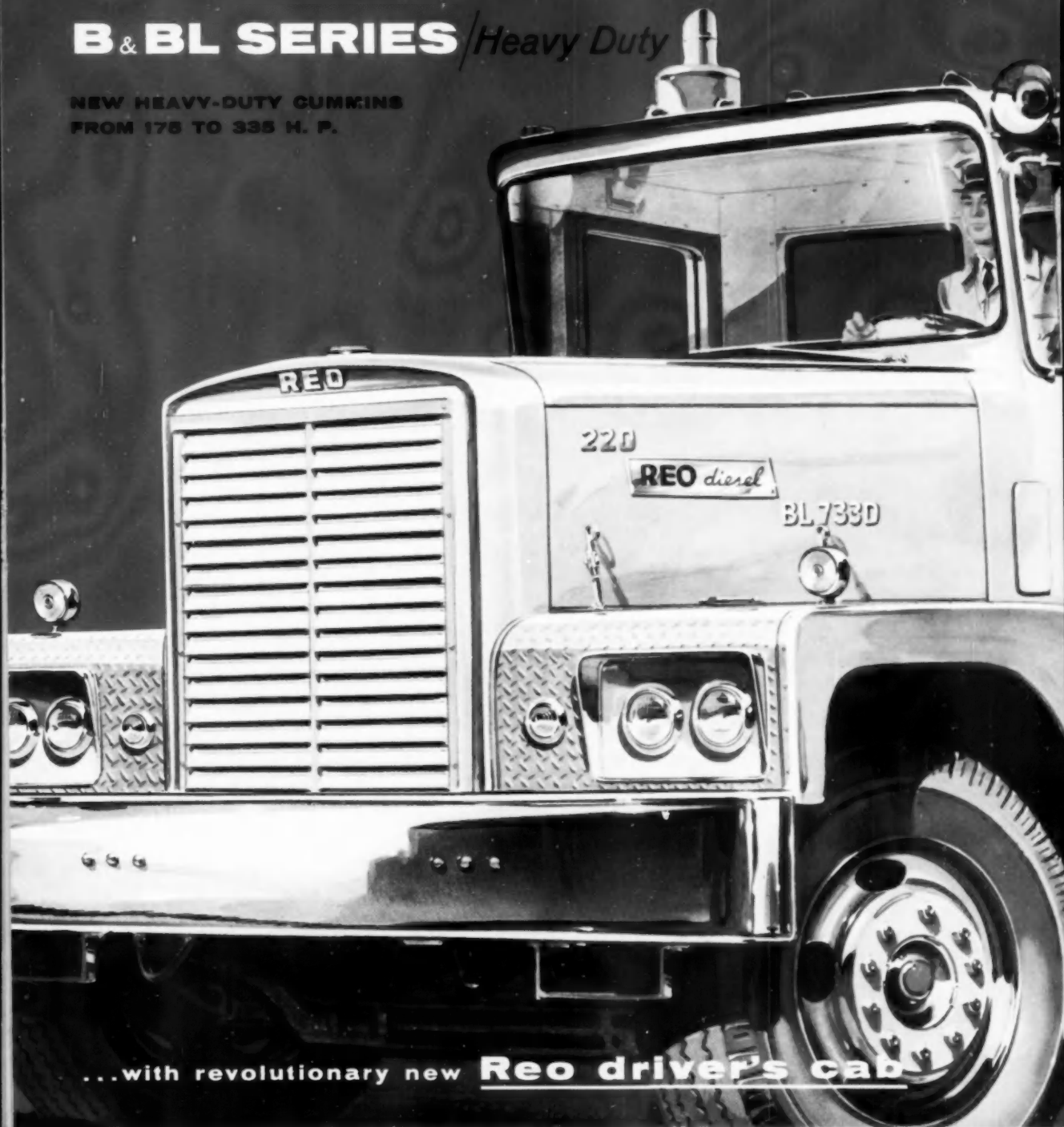




# NEW REO DIESELS

**B & BL SERIES** / *Heavy Duty*

NEW HEAVY-DUTY CUMMINS  
FROM 175 TO 335 H. P.

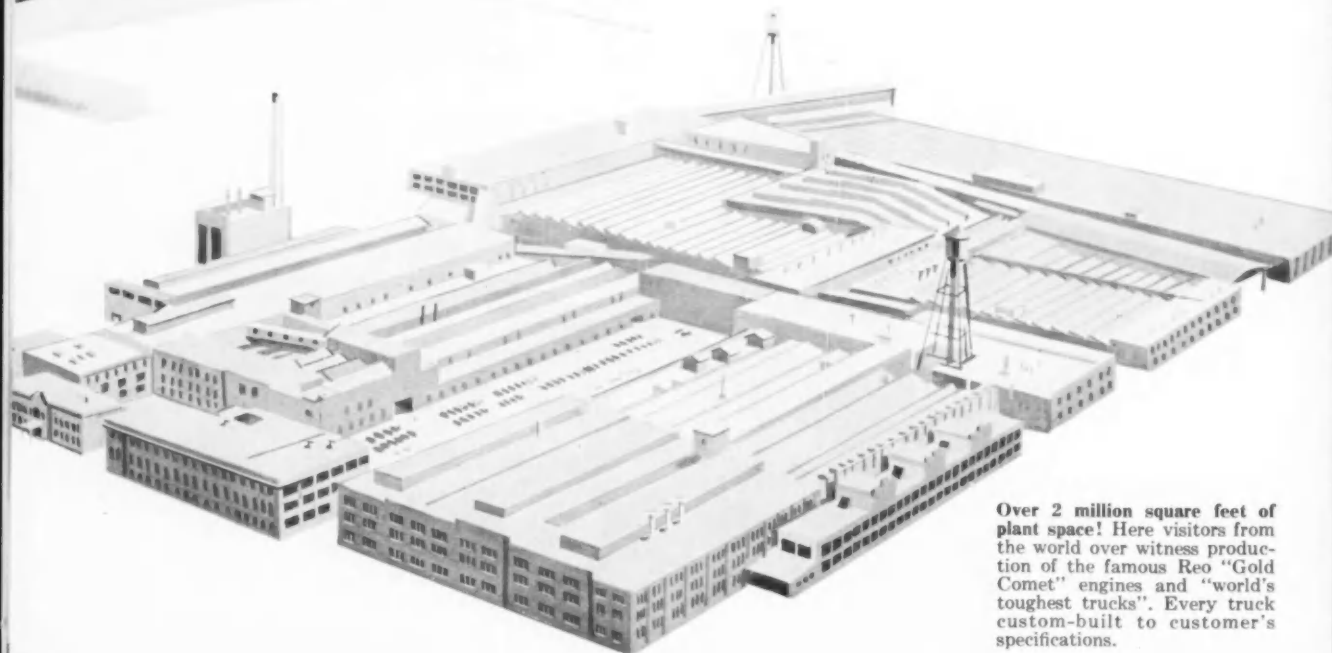


...with revolutionary new **Reo driver's cab**



New slant-back windshield plus overhang provides double-protection from falling debris, snow and ice.

# revolutionary



Over 2 million square feet of plant space! Here visitors from the world over witness production of the famous Reo "Gold Comet" engines and "world's toughest trucks". Every truck custom-built to customer's specifications.

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New panoramic vision for driver gives him full sweep ahead and on both sides without glare, distortion or obstruction.



New "living room" comfort for driver. Full leg room. No "dog house". Bostrom "Level Ride 80" driver's seat.



New roominess under hood for ease in servicing engine. Husky "Catwalk" fenders, with "diamond" safety treads.

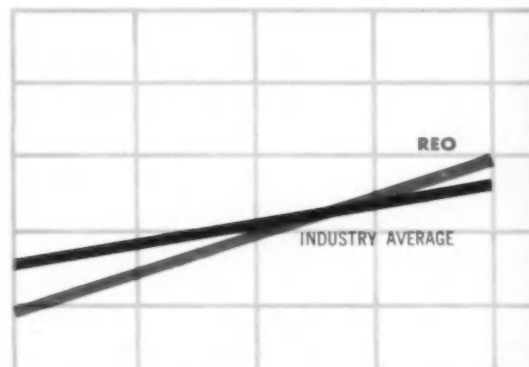
# REO DRIVER'S CAB

Reo's New B Series Diesels are brand new. They are the result of extensive research and testing to find the perfect cab for *all drivers* . . . in all operations . . . and under all conditions. They introduce a new concept in driver comfort, convenience and safety—from the Bostrom "Level Ride" seating to the "Panoramic Vision" slopeback windshield . . . from the flat floor and living room spaciousness to the visibility of instruments and convenience of controls.

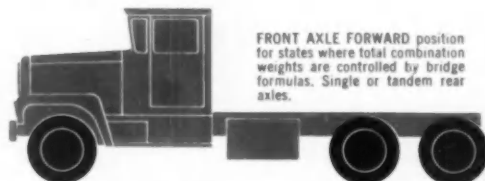
Both four and six wheel tractors and trucks come in all steel or weight reduced aluminum and magnesium. These trucks are especially engineered for economical "Big Load" operations—long-distance highway hauling or tough off-highway service.

Over 8,000 combinations are possible in custom engineering a model to your specific operating requirements . . . using only proven major components from a wide selection.

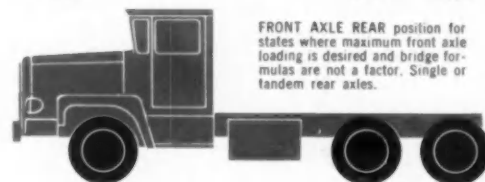
See your Reo Representative or send convenient coupon today.



Reo sales gain in 26,000 lb. and over GVW class exceeds that of the industry during last 2 years. "Heavy" trend is to Reo.



FRONT AXLE FORWARD position for states where total combination weights are controlled by bridge formulas. Single or tandem rear axles.



FRONT AXLE REAR position for states where maximum front axle loading is desired and bridge formulas are not a factor. Single or tandem rear axles.

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SUBSIDIARY OF BOHN ALUMINUM AND BRASS CORPORATION

Please send complete information on following new Reo B Series Diesels. ☐ Standard ☐ Lightweight

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CITY

STATE

TYPE OF OPERATION

**Reo has set the**

# "GOLD STANDARD OF VALUES"

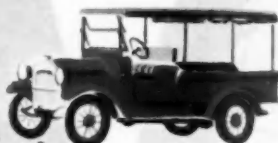
**in truck building since the day of the world-famous Reo Speed Wagon**

**A WORLD WIDE REPUTATION  
FOR LEADERSHIP SINCE 1904**

- First to standardize on left-hand drive.
- First single plate disc clutch.
- First center-control gear shift.
- First to standardize on electric lighting and starting.
- First with spiral gears on rear axles.
- First to use lightweight alloy pistons.
- First internal expanding 4-wheel hydraulic brakes.
- First self-shifter . . . forerunner of today's automatic transmission.
- First chrome-nickel alloy cylinder blocks.
- First pneumatic-tired truck.
- First to perfect wet-sleeve gasoline truck engine.
- First heavy-duty V-8 truck engines.
- First factory engineered 6 cyl. and V-8 LP-Gas truck engines
- Only truck manufacturer that backs its complete line of Gas and LP-Gas engines with 100,000 mile warranty.



Gold Crown engine built by Reo for its early trucks. Predecessor of Reo Gold Comet.



Reo Speed Wagon, introduced in 1915, set new standards in commercial transportation.



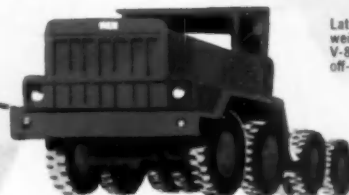
Reo Gold Comet "Six" revolutionized the industry with introduction of "wet sleeves".



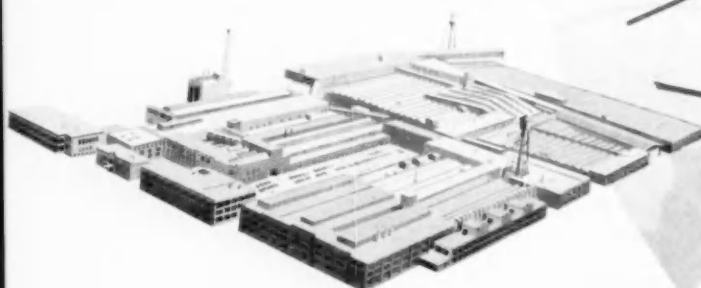
Reo "Eager Beaver" 2½-ton military vehicle. Over 45,000 produced for the armed forces.



Reo Gold Comet V-8. First heavy-duty V-8 truck engine with modern wet sleeves and short stroke design.



Latest Reo Heavyweight! 470 h.p. twin V-8 engines in 8 x 8 off-highway unit.



# REO

**BUILDER OF THE "WORLD'S TOUGHEST TRUCKS"**





## Lumber Fleets

Continued from Page 186

forts to influence legislative matters. Nevertheless, it has been consulted on every piece of legislation affecting log and lumber trucking that has been proposed in the Oregon legislature in recent years, and has worked closely with state officials in publicizing and explaining new laws and securing desirable modifications.

Oregon's new binder chain law is a good one, Curtis believes. Since most loading accidents are caused by improper loading, a specific law which details use of binders is a check on the careless or ignorant loader. "The man with a small outfit loads logs like hay," Curtis says. A second reason for his approval of the law is the psychological effect on people whom the trucker meets on the road. "They don't shudder as they pass if the load is securely bound by several chains."

Other legislation in which OTTO leaders have cooperated with the state includes a change in the trailer hitch law, modification of the turn signal light law to permit mounting of lights on mirror brackets, and the recent freeing of certain railroad crossings.

### Retraining Problem

One of Curtis's principal tasks has been to teach safe handling of powerful new rigs. "A driver changing cabs can't tell his own speed. First, in the higher cabs of the new models he's too far from the ground," he explains. "And the horsepower is sometimes double what he's been used to. It's amazing that an owner will turn over a \$25,000 machine to a driver without a bit of instruction."

### Growing Membership

During its first year, OTTO attracted to its membership some 1500 of the state's 6000 log and lumber truck drivers, who paid \$6 per truck. The second year, 1952, dues were raised to \$10 per truck. The total membership remained about the same. By 1953, faced by a mounting deficit but unwilling to

ask the single-truck operator to pay more, OTTO took its financial problems to the assembled lumbermen at the Willamette Valley Logging Conference. Recognizing the tremendous value of OTTO's safety program—not a single serious accident had occurred among the membership in the first three years of operation—a group of representatives of the larger companies agreed to make up the deficit and underwrite the program.

At present the \$10 rate is maintained for single-truck owners. Logging companies pay according to the number of trucks they operate and lumber companies on the average day's cut—with a maximum limitation in each case of \$600 a year. Associate members pay \$50 annually. About 200 companies are represented in membership.

END

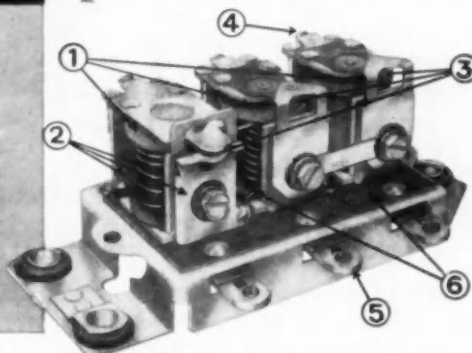
Please Resume Reading Page 72

# New!

## P & D REGULATORS

### Quality Controlled

The answer to better performance, dependably long service, is in the close control over quality exercised by P & D engineers. That's why you know you can use and recommend P & D parts with confidence. For instance — check the NEW P & D Voltage Regulators—



**1** PROPERLY DESIGNED COILS, plus temperature compensation — best output for battery needs.

**2** LOW VOLTAGE DROP—low resistance insulated windings, rugged metal structure, copper as conductor — make the coolest running regulator on the market.

**3** CONTACTS — of special alloy for stability and long life.

**4** SPRINGS — balanced for reliable action even through severe shock.

**5** HEAVY STEEL TERMINAL BOARDS — for good connections and no stripped threads.

**6** INSULATION — Top grade phenolic plate and plastic sleeves.

**7** PLASTIC COVER—for identical settings after regulator is closed against dust, water and trouble.



## SURE!

The profit's in the  
P & D Quality Controlled line!

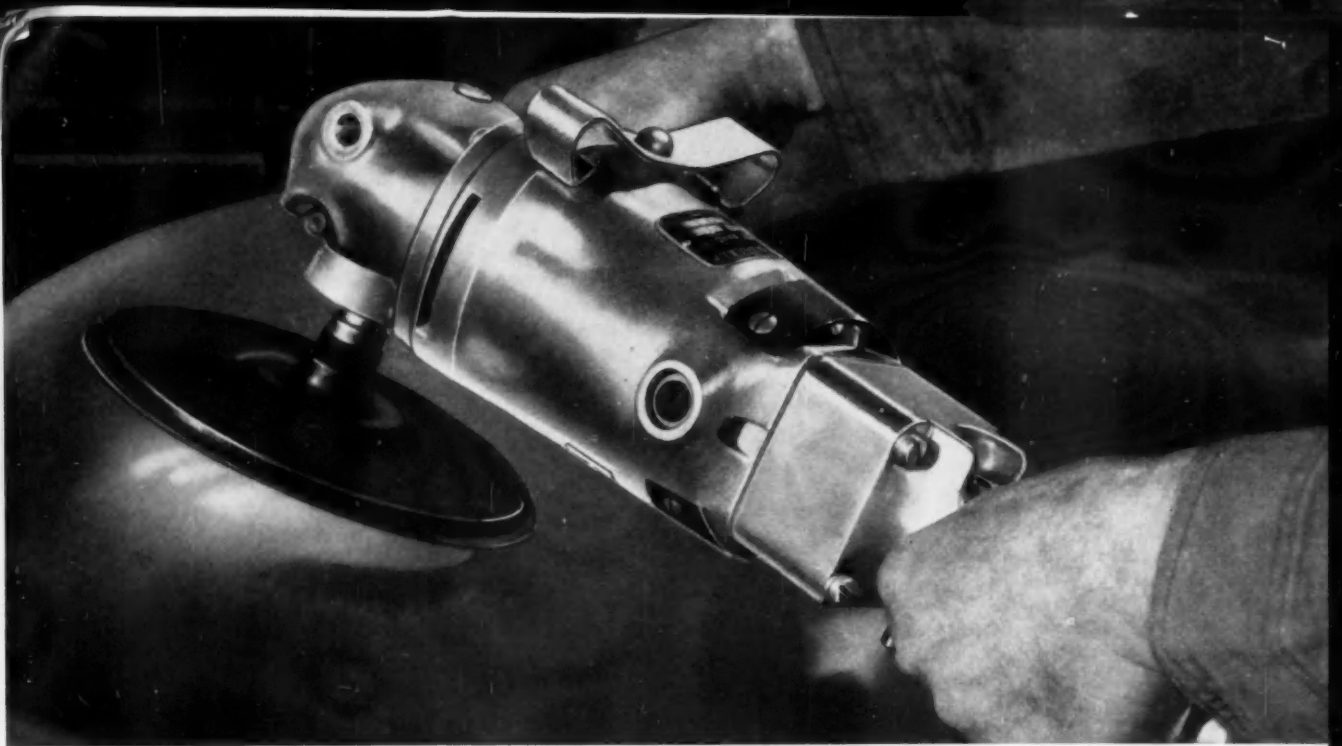


## MANUFACTURING CO., INC.

Established 1920

19-02 Steinway St., Long Island City 5, N.Y.

Export Sales: Borg Warner International, 36 So. Wabash Ave., Chicago 3, Ill.



# Finish body jobs faster with this shop workhorse!

## **Black & Decker 7" Standard Sander** **POWER-BUILT for continuous service**

Sanding, grinding, cut off, wire brushing—you name it, the Black & Decker 7" Standard Sander does it—better, faster, continuously, with 20% more power, 20% less weight. We've used heat-treated, spiral bevel gears mounted on splined shafts—lubricant-sealed ball bearings throughout—for greater strength and smoother power flow.

Result: a body sander that's a bear for work—easy to handle—*power-built* to last and last. See for yourself at your nearby Black & Decker distributor, he's listed in the Yellow Pages of your phone book. Or write for free catalog No. 10 to: THE BLACK & DECKER MFG. CO., Dept. 5406, Towson 4, Md. (In Canada: 80-86 Fleet St., E., Toronto 2, Ontario.)

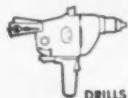


Leading Distributors Everywhere Sell

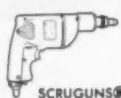


# Black & Decker®

Portable Electric Tools—Power-Built to set the pace



DRILLS



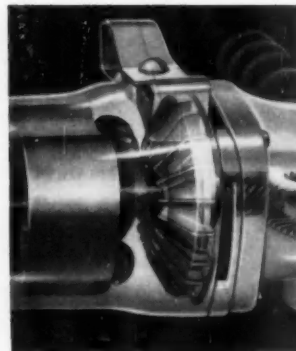
SCRUGUNS®



IMPACT WRENCH



SHEARS



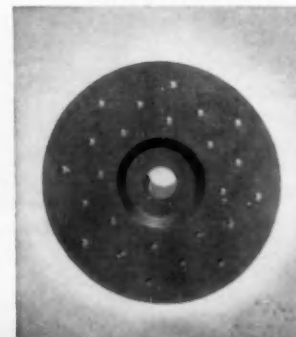
**COOLER RUNNING** from special fan. Directs hot air away from user. Improves motor operation.

**KOOL-FLEX PAD** makes discs run cooler. Less chance of burning. Gives tool better balance.



**DUST-PROOF SWITCH**, with push through safety action, extra-value feature in this price range.

**FACTORY SERVICE** from 46 B&D Branches in U. S. and Canada assures fast, expert repair.



# Best for service needs!



Model E12.9A —  
12 ton axle jack.



Increase your shop safety and efficiency with dependable, trouble-free Hein-Werner Hydraulic Jacks. You can't buy better. Check for yourself these worthwhile Hein-Werner features:

## HEIN-WERNER HYDRAULIC JACKS

Built for fast, easy,  
safe-handling of all  
heavy-duty jobs!

- One piece hardened extension screw.
- Heavy malleable iron top nut.
- Pressure tested castings.
- Center-balanced malleable handle socket.
- Exclusive "Heinite" piston.
- Carrying and positioning handles.
- Positive, direct release valve.
- Convenient two-piece pumping handle.
- Factory tested at 1½ times rated capacity.
- Large sled-type base of pressure tested malleable iron.

Compare Hein-Werner Hydraulic Jacks feature-for-feature with any other jack on the market. You will quickly see why Hein-Werner is the popular choice of over three million mechanics and truck drivers. Ask your Hein-Werner jobber for all the facts, or write us.

For Your Protection  
all Factory Approved  
Service Stations now  
display this emblem.



Hein-Werner manufactures and sells more HYDRAULIC JACKS than any other company in the world today!

### HEIN-WERNER CORPORATION, WAUKESHA, WISCONSIN

The complete Hein-Werner line includes: Under-Axle Jacks of 1½ to 100 ton capacity . . . "Bumper-Lift" Jacks for passenger cars . . . Service Jacks for shop use . . . Adjustable Car Stands . . . Twin Saddle Service Jacks . . . "Push and Pull" and "Pushmaster" Jacks for body, fender, and frame repair work.

## Better Try Again, Mr. Buck!

Continued from Page 90

him doing the very same thing when he provides for a Non-Preventable category. If it is so bad to charge non-preventable accidents under the frequency rate system, why did he provide for them in his own rating system. And since safety directors, ac-

cording to Buck, chafe and squirm at having to report these and end up by simply not reporting them at all, will they not also cheat under his rating plan?

Buck claims they won't cheat because he has socked them so hard for Dividend Responsibility

and Sole Responsibility accidents that they won't mind paying the niggling penalty assessed against the Non-Preventables. Which is somehow like the man who enjoyed hitting himself on the head with a hammer because it felt so good when he stopped. (To this, Buck says: "I indignantly deny the remarks attributed to me here. I don't suggest they won't cheat—I do suggest it will be more painful when they're caught.")

### But there is still

another dimension of rubber in Buck's rating plan. The point values described above were for what Buck calls "trivial accidents." His other two classifications of severity are "intermediate" (for property damage exceeding \$25 and up to \$1000 and disabling injuries but no permanent impairment injuries or fatalities) and "Severe" (accidents which exceed \$1000 in property damage, or involve death or permanent disability). So he ends up with three categories of responsibility and three of severity. This is the rating yardstick with the two-way stretch. (Buck says: I like his 'two-way stretch' crack. Nearly everyone using the two-way stretch looks better; perhaps a two-way stretch will add better form and dimension to the safety program.)

And with severity, too, there is ample opportunity to cheat, mainly because accident costs can be figured in so many different ways. One can figure the cost of repairing the damage to the vehicles involved and let that be the cost. Or can, as many safety directors have long advocated, add in a long list of indirect costs which might amount to four times the direct cost. The dollar cost would also vary greatly from one part of the country to another. In a claim-conscious community the cost of a given accident could be very high, while in another community it could be settled at a reasonable figure.

### Figuring severity

according to Buck's rating plan poses a number of intriguing questions. (TURN TO PAGE 204, PLEASE)

## MINIMIZE VALVE BURNING with RMC "Heat Band" Valves



Is your engine burning valves? Correct it *rmc* "Heat Banded" valves, featuring—a layer of special "Non-Burning" alloy fused around the top—outer edge—of the valve and *rmc* "Hand Welded" Stellite faces.

*rmc* heat bands cut valve burning to a minimum—increase valve mileage. They cost more, are worth more. Savings in down time make them the most economical to use. Also available in solid stem replacements for Sodium valves.



SOLD by Leading Automotive Replacement Parts Jobbers

WAREHOUSED in Most Principal Cities

### VALVES AND COMPONENT PARTS



Valve Spring Inserts



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**RICH MANUFACTURING**

BATTLE CREEK  
MICH., U.S.A.

*Corporation*

BASIC VALVE MANUFACTURER

FOR ORIGINAL EQUIPMENT

SINCE 1906



# HIGHWAY

with



the payoff is in



# PERFORMANCE



## HIGHWAY TRAILERS DO *DOUBLE DUTY* FOR ARMOUR!

Bringing the bacon—and hundreds of other meat products—to market is a demanding factor in the Armour and Company operation. Fast, dependable delivery to local and distant markets can measurably affect meat-packing profit or loss. The Highway units in the Armour fleet are an important part of this cross-country delivery service—on the road or in piggy-back operations.

Armour needed an insulated trailer — aluminum for

greater payload — and rugged enough for straight-run or truck-train operations. They chose the Highway Econovan! Highway adds up to maximum load-carrying capacity over a long, dependable service life!

If you have a demanding transportation problem in YOUR business, check the big bonus you get in performance from Highway Trailers!



A Division of Merritt-Chapman & Scott Corp.



With Highway Trailers . . . the most important feature is **PERFORMANCE!**

## HIGHWAY TRAILER COMPANY

HEADQUARTERS: EDGERTON, WISCONSIN

Manufacturers of: Commercial Trailers • Trailerized Tanks and Dry-Bulk Haulers • Public Utility Bodies • Earth-Boring Machines • Pole and Cable Reel Trailers • Winches • Power Take-offs • Service Accessories

SALES AND SERVICE IN PRINCIPAL CITIES

.....you'll find no other like it!

# Warranty

**Carrier**

**TROPIC-AIRE**

Refrigeration Unit FOR TRUCK-TRAILER USE

This refrigeration unit is sold by the dealer with the following warranties of the McGraw-Edison Company, the manufacturer, and no other:  
Each Tropic-Aire—Carrier refrigeration unit is manufactured and tested with the objective of insuring long and satisfactory service in normal use when properly maintained.

McGraw-Edison Co. warrants the major functional parts and components against defects of material and workmanship for the period of one (1) year from date of installation. This warranty covers only parts and components removed and returned to the factory in a condition enabling inspection, and does not cover parts and components ordinarily requiring replacement periodically under good maintenance procedure. Belts, spark plugs, gaskets, distributor points, dryers, lights, water hose, engine overhaul, miscellaneous hardware and similar accessories are examples of components and services excluded from this warranty.

This warranty is limited to the replacement of defective parts and components in kind or, at the customer's option, the allowance of a credit to the full extent of the factory sales price thereof; together with an allowance for labor not exceeding the company's established standard labor allowance (See partial list of labor allowances in warranty section of Manual) of replacing the parts or components found defective upon factory inspection. All such parts and components must be returned to the company prepaid. Replacements will be shipped prepaid.

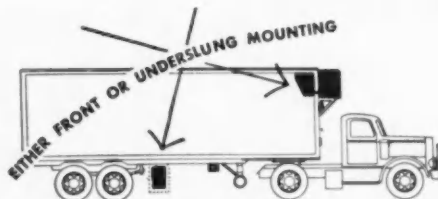
This warranty is the only warranty either express, implied, or statutory, covering this sale; the company's liability in connection with this transaction is expressly limited as above specified; all other damages and warranties, statutory or otherwise, being expressly excluded.

WARRANTY REGISTRATION CARD  
Serial No.

**Carrier**

**TROPIC-AIRE**

**TRAILER REFRIGERATION EQUIPMENT**



**McGRAW-EDISON CO.** • Clark Division  
5201 W. 65th Street, Chicago 38, Illinois



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DRIVES AND REMOVES NUTS, BOLTS AND SCREWS ON:

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## There's never been an Air-Wrench like the new CP-720 MIDGET

No impact wrench can match these *exclusive* CP MIDGET features: (1) Hand-sized. (2) Only 2½ lbs. (3) Dial type *Power Selector* and *Vari-Tork* Power Converter employ an all-new principle to deliver "just the right" impact blow for "job rated" torque control. (4) "Butterfly" throttle, controlled by finger pressure, gives instant forward or reverse power without change of grip. (5) Air intake swivel lets mechanic work in any position without interference. Call your jobber or mail coupon today. *Chicago Pneumatic Tool Company, 8 East 44th St., N. Y. 17, N. Y.*



The *Attachable Angle Head* attaches firmly to special nose section . . . permits one-hand operation in ratchet wrench spots.

CALL YOUR JOBBER OR MAIL THIS COUPON TODAY!

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- ☐ Please arrange demonstration. No obligation!
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# Chicago Pneumatic

AIR AND ELECTRIC IMPACT WRENCHES • BEAD BREAKERS • ZIP-GUNS • PNEU-DRAULIC TRUCK JACKS AND PUMPS

COMMERCIAL CAR JOURNAL, June, 1957

## Try Again, Mr. Buck!

Continued from Page 200

tions he has left unanswered. We are puzzled, for example, as to how he figures the cost of "Non-Preventable" accidents. Doesn't the other guy pay for these in most cases? And if so, why penalize the effectiveness rating of our company if there are no dollar losses

involved? (Our company still pays its own indirect costs. Ed.)

And what about the Divided Responsibility category? Do we assess ourselves all of the cost in figuring rating penalties, or do we split the cost with the other party involved. Or do we wait for the outcome of litigation and let the court decide whether it was a Non-Preventable or a Sole Responsibility accident?

## The Tic-Tac-Toe system is

so filled with variables and subjective factors that it could hardly be used as a dependable basis for inter-fleet performance comparisons. Would it, however, be useful to top management as a basis for assessing the effectiveness of its own safety program among different branches.

It is extremely doubtful. Management already has ample facts and in great detail about its accident experience. It knows what accidents are costing and the proportion of preventable to non-preventable accidents. Putting accident data through this artificial rating scheme would not add any clarity to the picture but would, instead, yield a meaningless number that would require reams of interpretation. What management needs most, in addition to its own accident data, is a reliable yardstick for measuring its performance with that of similar fleets. The most reliable such yardstick is still old friend Frequency Rate.

## Mr. Buck claims

that his all-purpose rating scheme could also be hooked up to an individual driver safety award plan. In his article he cited the dilemma of a truck driver of his acquaintance who complained: "In crime they'll burn you according to how bad your crime was—and whether you were responsible. In safety they'll burn you for just being there, even though you are innocent of blame."

We can think of few professional drivers today who would have grounds for such a complaint. It would apply only to drivers under award or rating plans that charge every accident against the driver. These are fast disappearing from the scene. Most award programs, the most universal being the National Safety Council's Safe Driver Award, are based on the ability of a driver to drive without having "preventable" accidents. Drivers are not "burned" for accidents they could not have prevented. (Isn't he a little inconsistent?" Buck asks. "He blasts my daring to adjudge accidents on the basis of prevent-

(TURN TO PAGE 210, PLEASE)

## You'll be proud of your Brake Service when you use



## THE FINEST IN BRAKE PARTS!

A brake job can only be as good as the parts that go into it. Why not do the best job possible by using EIS — THE FINEST IN BRAKE PARTS?

USE EIS "E" SERIES CUPS AND EXPANDERS in all your wheel cylinder work. They're made of a new, heat-resisting compound, yet remain flexible at 400° below zero! Most 1956-57 cars come equipped with Expanders. Higher speeds and quicker stops make EIS "E" Series Cups and Expanders necessary on all jobs. EIS Wheel Cylinders come equipped with them.

On many trucks using "U" Ring Cups, USE EIS CHANGEOVER KITS AND CYLINDERS. They contain new type pistons, plain cups and expanders. EIS cylinders are also fitted with the new and shorter push rods.

USE EIS PATENTED RIBBED CUPS on all Chrysler Products up to 1956 — also on many trucks using "U" Ring Cups. They've been doing a better sealing job for years! All EIS Master Cylinders are furnished with ribbed secondary cups.

BRIDE FILL WITH EIS SUPER "50"! It meets SAE Heavy Duty Specifications 70W-1. Many states require the use of heavy-duty brake fluid — all car manufacturers have been using it since 1951!

ORDER FROM YOUR EIS DISTRIBUTOR OR WRITE FOR CATALOG DESCRIBING "THE COMPLETE BRAKE PARTS LINE!"

EIS AUTOMOTIVE CORP., Middletown, Conn.



**THE MOST *TROUBLE-FREE*  
IGNITION CONDENSERS  
EVER DESIGNED**



**ECHLIN**



*Ignition*

CONTACTS  
COILS • CONDENSERS  
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You'll save maintenance dollars when your fleet is



#### FRAM "Filtronic" Air Filter Conversion Kits . . .

for trucks, buses and stationary engines are available for many applications. Among these are: Chevrolet 1946-57, all 6 cyl. except those with crankcase vacuum system and COE models; Dodge 1946-57, all 6 cyl. except COE models; 1954-57, all V-8 except COE models—Ford 1953-56, F700 thru F900, V-8; 1953-56, F100 thru F600, V-8; 1948-52, F1 thru F6, V-8, except COE; 1953-56, F100 thru F600, 6 cyl.; 1948-52, F1 thru F6, 6 cyl. except COE—GMC 1948-57, all 6 cyl. except those with crankcase vacuum system and COE models; 1955-57, all V-8—IHC 1950-57, all Silver Diamond and Black Diamond Engines (except Metro) not equipped with Hydrovac or crankcase vacuum system; 1946-49, 6 cyl. Green Diamond (except Metro)—Reo 1949-56, 6 cyl. and 1955-56, V-8—Studebaker 1946-57, all 6 cyl.; 1953-57, all V-8 or any engine having a maximum air flow requirement up to 350 CFM.

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OIL • AIR • FUEL • WATER  
**FILTERS**

#### New FRAM Filtronic Air Filter requires less care . . . reduces engine wear!

Exhaustive laboratory tests prove conclusively that longer engine life and less maintenance result from the use of this revolutionary new type of air filter\*. Only FRAM Filtronic Air Filters give you the protection of the FRAM patented built-in gasket.

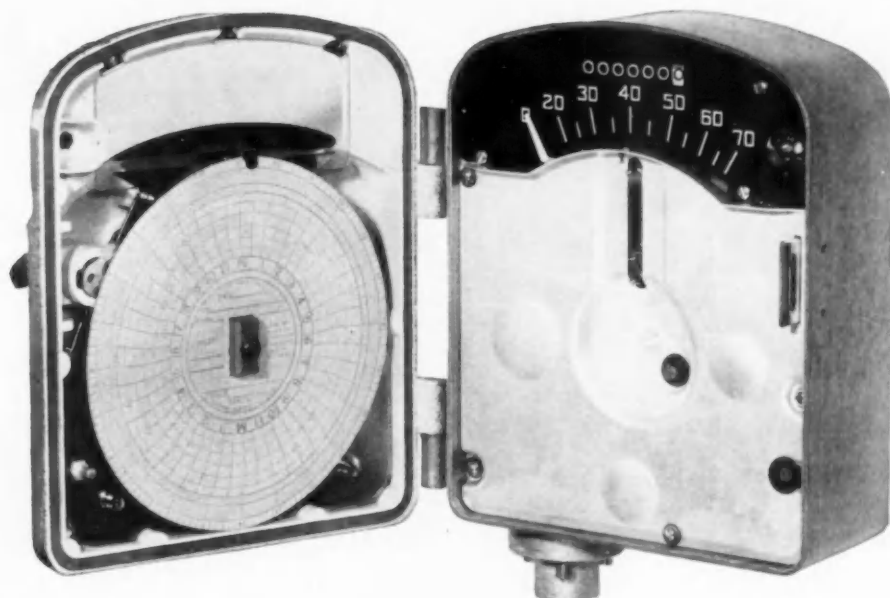
This patented gasket eliminates the defects found in metal to metal, metal against cork or composition gasket and metal beads or ridges pressed against a flat plastisol face. All of these must be replaced in *exactly* the same position, following cleaning, or they *will* leak air.

99.+ % efficient FRAM units are *always* perfectly sealed . . . never leak dirt-laden air. Cartridge maintenance is a cinch, too. Air blow or tap accumulated dust and dirt from the cartridge to service—that's all there is to it! Investigate today. You save with FRAM replacement or conversion!

*\*Write for complete details or see your FRAM distributor.*

FRAM Corporation, Providence 16, R.I. • Fram Canada Ltd., Stratford, Ont.

# THE "INSIDE STORY" ON TACHOGRAPHS



...and how they can be a profitable investment for your fleet!

A simple wax-coated chart placed *inside* the Tachograph gives you an accurate, permanent, graphic record of every trip your trucks and drivers make—vital information that helps make your fleet operation safer, more efficient and more economical. That's why it's good business to invest in a Tachograph for every truck you operate.

## 1. THE CHART PROVIDES ACCURATE RECORD OF VEHICLE MOVEMENT

Gives you a permanent and accurate record that shows when engine started; how long it idled; when vehicle was in motion; how fast it traveled; when it stopped and for how long; and distance traveled between stops.

## 2. PROVIDES BETTER ROUTING DATA

Helps you determine the best routing for normal, "express," or special runs by indicating where traffic tie-ups are likely to occur and where slow downs are necessary due to terrain.

## 3. VERIFIES REPORTS AND CUTS UNSCHEDULED STOPS

Through analysis of the chart, you know "first hand" the number of hours or miles driven, overtime, loading or unloading delays and the number of stops made in any 24-hour period. And because speed is controlled, you save on gas, oil and tires.

And should an accident occur, the Tachograph chart will tell you how fast your truck was moving, the time, and when travel was resumed, as well as verification of the location. Tachograph charts are often used to substantiate driver's testimony in court cases and can be helpful in reducing the number of reportable accidents which, in turn, can lower insurance rates.

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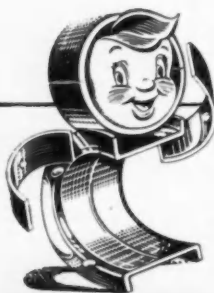
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S57-3

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*How to cut Service Costs  
with the Modern, Proven, Efficient . . .*

# YORK-HOOVER

**model YMR-76 service body**



The Model YMR-76 is designed to provide more space for the convenient carrying of materials and tools. A thru material drawer in rear compartment and a thru compartment at front is particularly useful in addition to other specialized cabinet arrangements.

"Custom" construction features include four sturdy cross members beneath the steel treadplate floor for greater base stability . . . a deep drop gate at the rear, especially designed to prevent sagging . . . easy-action telescoping roof . . . and double panel compartment doors incorporating galvanized non-corrosive steel.

*Designed especially for*

**EFFICIENT ELECTRICAL MAINTENANCE  
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YORK-HOOVER CORPORATION  
YORK, PENNSYLVANIA**

Get the complete story on  
the York-Hoover YMR-76  
Service Body. Write for Bul-  
letin No. 942. Today!



CREATIVE ENGINEERING FOR THE TRANSPORTATION INDUSTRY SINCE 1892

## Try Again, Mr. Buck!

Continued from Page 204

able, divided-responsibility, and sole responsibility, yet here he admits the National Safety Council throws out the non-preventable accident in its fleet safety award program, and does not count it against the driver. It's comforting to learn the NSC recognizes this need.")

**Yet, under Mr. Buck's** driver rating plan, this very same driver would be charged with anything from a one to nine-degree burn for every accident he had, depending upon the degree of responsibility and the severity of the accident. The driver would hardly be any happier.

As the basis for an individual driver award plan, the Tic-Tac-Toe system contains this especially amusing anomaly. The same penalty is assessed for a severe accident for which the driver was not responsible as for a trivial ac-

cident for which the driver was entirely responsible.

### "Bad psychology" marks

two concepts of the plan from the standpoint of intelligent supervision. One of these is the term "trivial" accidents. In our book, there are no trivial accidents. To use this term in driver safety supervision is to abandon entirely the concept that the important thing in any accident is the unsafe act involved. There are no "trivial" unsafe acts, no "intermediate" unsafe acts, and no "severe" unsafe acts. They are all severe. For only Providence determines whether an unsafe act results in a trivial or a severe accident.

The other dangerous concept is that of divided responsibility. This one is especially loaded with mischief. How is a supervisor going to conduct a training interview with an accident repeater and teach him convincingly when by his own admission, the other fellow was partially at fault in the accident under discussion?

Most driver award plans are

now based on whether our driver did everything he reasonably could have done to prevent the accident. The accident is classified as either preventable or not preventable. This is a much more fruitful basis for effective accident prevention work than one complicated with discussions of degrees of responsibility.

### The frequency rate

method of determining accident rates for comparative purposes has a long and honorable history. Admittedly, it is a rough and ready measure. Admittedly, a safety director can cheat on his rate by not reporting every accident. Such a person would cheat under any rating plan. But among men of integrity, who, we feel, constitute the great majority of fleet safety directors practicing today, frequency rate is still the most reliable basis for making inter-fleet comparisons. It may not tell all, but it tells a lot.

END

Please Resume Reading Page 92

## SAVE Time, Labor and Money



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**BONDERIZED**  
... for extra  
protection  
against rust  
and corrosion.

- Speed service calls—take your workshop to the job.
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- For any make 1/2 - 3/4 - 1 - 1 1/2-ton chassis—easy to mount or transfer.
- Complete line of Service Accessories engineered to your specific needs.

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No scrubbing! Apply!  
Count to 6... Tar is gone!  
SAFE for new LUCITE-  
ACRYLIC PAINTS, di-  
lute with 1 to 2 parts kerosene... goes farther.  
For all other cars use "as is."

CAR DEALERS buy for cleaning used cars.  
SERVICE STATIONS buy for removing rust  
stains, brightens aluminum. PAINT SHOPS  
BUY for removing wax and silicones.

**EXCELLENT UNDERBODY COAT REMOVER**



IMMEDIATE SHIPMENT



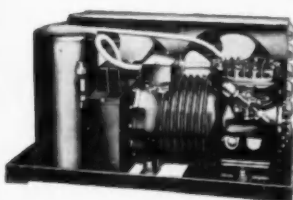
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#### CAPACITY

Choose from  $\frac{1}{2}$  to 3 H.P. in Copeland units, the direct-drive accessible hermetic, and economical belt-driven models. Model TR-100 shown.

#### DEPENDABILITY

Thousands of Copeland units now in use have given years of trouble-free, over-the-road service—proof of superior engineering, ruggedness and dependability.



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Our unexcelled coast-to-coast network of 130 wholesalers and over 25,000 refrigeration dealers means the best in service when you need it. It's only a phone call away.

Copeland refrigeration does the rest . . .  
keeps food fresh!

The old-fashioned dairy maid got there all right . . . but her milk and butter wouldn't satisfy *modern* demands for down-on-the-farm freshness and flavor. Today, truck fleets equipped with dependable Copeland units protect in-transit payloads from spoilage and flavor loss.

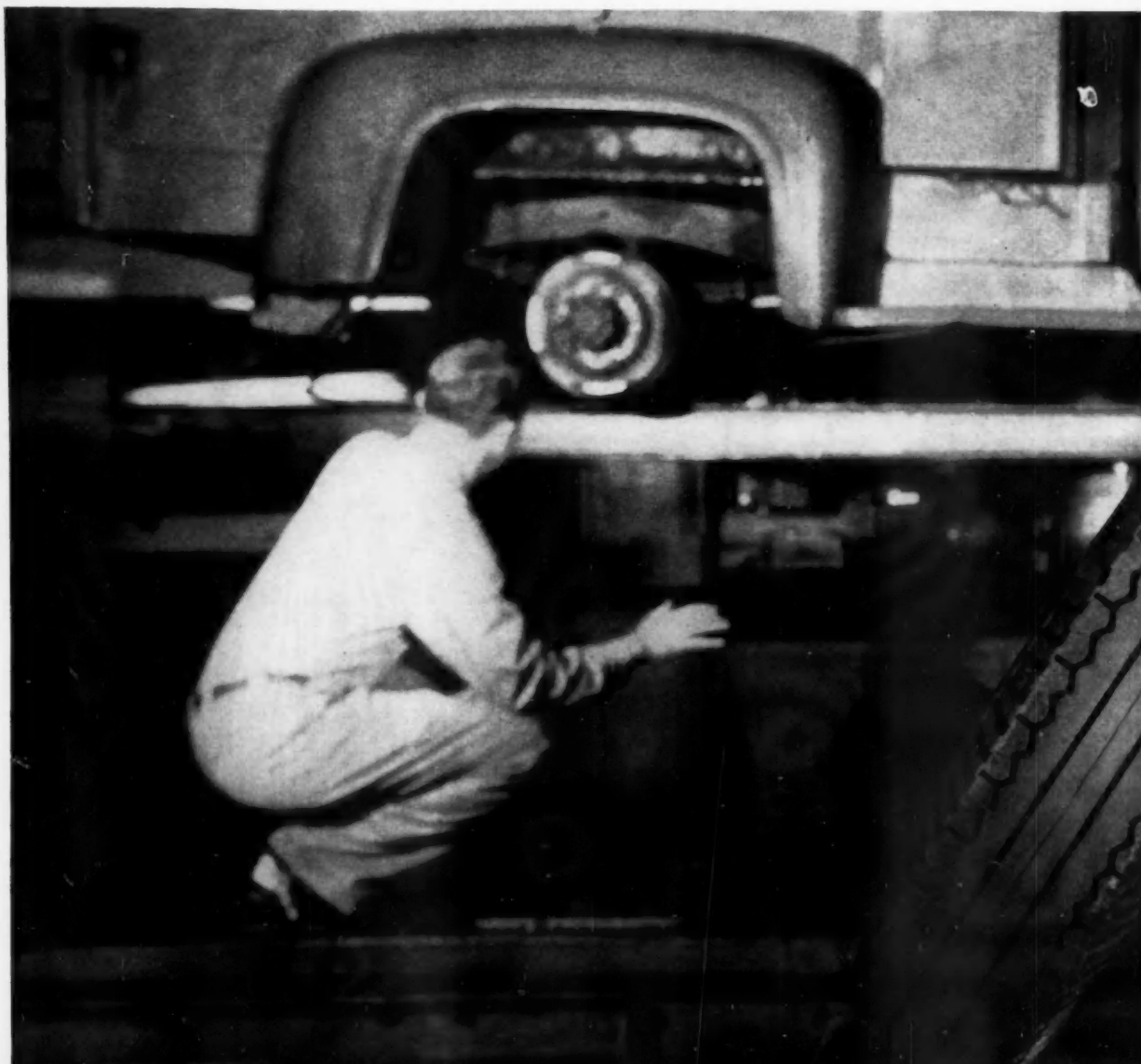
Whatever the application—holdover or over-the-road—a Copeland unit meets the critical needs of multi-stop deliveries and long distance hauling. Plugged in at stops, or run from a generator for over-the-road use, a Copeland unit produces cooling you can count on all the way . . . at lowest cost per mile.

SINCE 1918

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The reason couldn't be simpler. Truckers get more out of nylon cord tires. More trouble-free mileage. More safety. More retreads. More economy.

Road experience proves it. Nylon's extra strength and toughness greatly reduce cord failure due to tire-killing heat, moisture, flexing, impact. Nylon cords not only clock

more original mileage, but the stronger casing safely takes recap after recap . . . thus cutting costs per mile still further. You have a clear demonstration of nylon cord's superiority in the fact *that they've become standard equipment with every commercial airline and on virtually all military aircraft.* It isn't hard for truckers to translate this

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# TRUCK TIRES

to their own advantage, to see how the two-fisted strength they need in tires . . . they get with nylon cords.

Today, an increasing share of the rugged nylon yarn going into tire cord is the product of The Chemstrand Corporation . . . one of the major nylon yarn suppliers. Every factor in the production of Chemstrand nylon . . .

the completely integrated nylon plant (the only one in the country), the advanced equipment, the tight quality control system . . . is aimed at one goal: *to turn out the strongest, most durable, most consistently uniform nylon yarn possible . . . for tire cord for trucks, cars, airplanes.*

Are you taking advantage of today's nylon cord tires?

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Akron, Ohio; 4 Pearl St., Dedham, Mass.; 222 South Church St., Charlotte, N. C. • PLANTS: CHEMSTRAND® NYLON — Pensacola, Florida; ACRILAN® ACRYLIC FIBER — Decatur, Ala.

# Tru-Stop Brakes

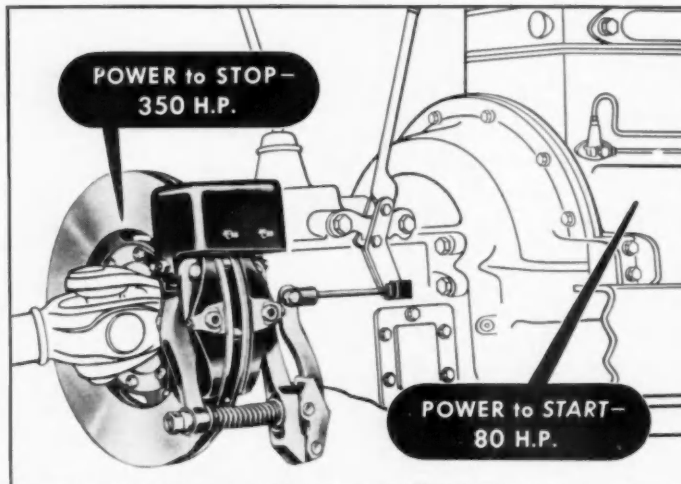
## Meet Every Heavy-Duty Safety Requirement

OFFER POSITIVE PROTECTION  
AGAINST RUNAWAY OR PARKING  
ACCIDENTS—AT LOWEST COST

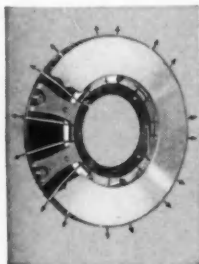
### HERE IS WHY:

**They have surplus power  
required for emergency  
service—no dangerous  
self-energizing**

TRU-STOP Heavy-Duty Emergency Brakes are not only excellent parking brakes. They serve as a complete, independent and fully reliable braking system. Operating on the propeller shaft they enable the driver to continue on safely in the event of service brake failure. TRU-STOP brakes have the surplus braking capacity to be used repeatedly as an auxiliary to service brakes.

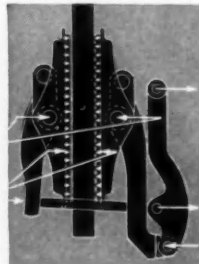


*Brakes actually do more work than the engine in terms of horsepower. Where it takes 80 HP to accelerate to 20 miles per hour, it takes 350 HP to make a safe stop from 20 miles per hour within required limits*



### Ventilated to throw off heat

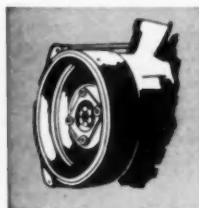
Brake efficiency depends on ability to throw off intense heat—rapidly. Discs of TRU-STOP brakes are exposed to the air even during the braking operation. Ventilated design circulates air between the disc plates.



### Give uniform brake pressure

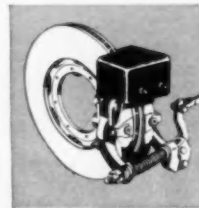
Disc of TRU-STOP brakes is "squeezed" between the flat surface of the shoes. Effort applied to brake lever operates front and rear lever arms simultaneously. Pressure is exerted on the center of each shoe. Entire lining surface is in contact.

**TRU-STOP HEAVY DUTY BRAKES OUTPERFORM AND OUTLAST DRUM-TYPE BRAKES  
DON'T LET THE SURFACE AREA FOOL YOU!**



### Drum-type brake

43¼ square inches of lining. Lining covers 310 degrees of the drum. *BUT* only 50 degrees of the lining-covered drum is exposed to the air.

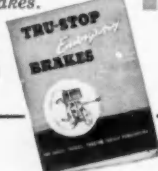


### Tru-Stop brake

28 square inches of lining. 90 degrees of the disc under pressure. *BUT* 270 degrees of the disc is exposed to air. Directing and throwing off heat is basis of brake efficiency.

We will be glad to answer any questions or give you more detailed information about TRU-STOP Heavy Duty Emergency Brakes. Send for

Catalog  
DH 33



### THE TEST

#### Drum-type Brake vs Tru-Stop Brake

After a few light and two heavy applications from 20 MPH, lining was useless for further test.

Repeatedly stopped vehicle from 50 MPH — was then used to decelerate on steep grades. No serious damage to lining.

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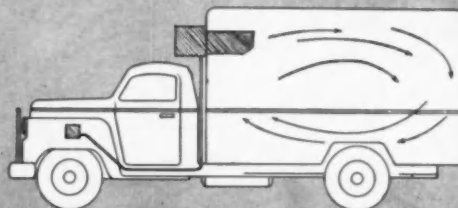
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**NEW!**



# HUNTER CARGO COOLER



**MORE  
REFRIGERATION**



**LESS  
WEIGHT**



**LOWER  
COST**

The new Hunter Cargo Cooler for trucks is a revolutionary mechanical refrigeration unit of advanced design for positive, dependable protection of cargos in the moderate temperature ranges at remarkably low cost.

Weighing only 345 pounds and extremely compact, it has a net cooling capacity of almost 1½ tons (at 20°F. evaporator, 90°F. ambient) — an unprecedented and unequalled high in cooling capacity per pound of weight.

Its hydraulic drive assures maximum cooling capacity regardless of vehicle engine speed. Automatic thermostatic control assures maintenance of positive, pre-set temperatures. Powered by the vehicle engine while enroute, it is also available (as Model HE-20-A) with A.C. standby motor for dock-side or overnight refrigeration.

Write for Complete Description and Specifications —  
Models H-20-A, HE-20-A.



**HUNTER MANUFACTURING COMPANY**

Transport Heating and Refrigeration

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## HUNTER CARGO COOLER MODEL H-20-A HYDRAULIC-DRIVE REFRIGERATION UNIT

- High Volume, Low Velocity Air Flow — Minimizes Dehydration of Cargo.
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- Modern Design — Built of Stronger, Lighter Materials.
- Simple and Easy to Install.
- Low Initial Cost. Low Operation and Maintenance Costs.





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## "The Shell ADC Oilprint Analysis benefits our fleet maintenance program"—

says E. W. Rose, Terminal Manager  
Midstates Freight Lines, Clyde, Ohio



This card records visual proof of the oil condition for each vehicle.

**An important saving!** The Shell ADC\* Oilprint Analysis enables this midwest transport company to gauge accurately just when each of its 246 big gasoline and diesel tractors needs an oil change. They save important money by not discarding still-good oil.

**Just as important . . .** Midstates finds that this new preventive maintenance tool gives them a quick check on motor conditions. They can spot

such things as jacket leaks and cracked waterwalls in a few minutes. They can determine oil acidity and dispersancy . . . all by means of a spot test with just two drops of oil!

No wonder Midstates and so many other modern transport companies now depend upon the ADC Oilprint Analysis . . . the fast, easy way to test the condition of motor oil.

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# SHELL OIL COMPANY

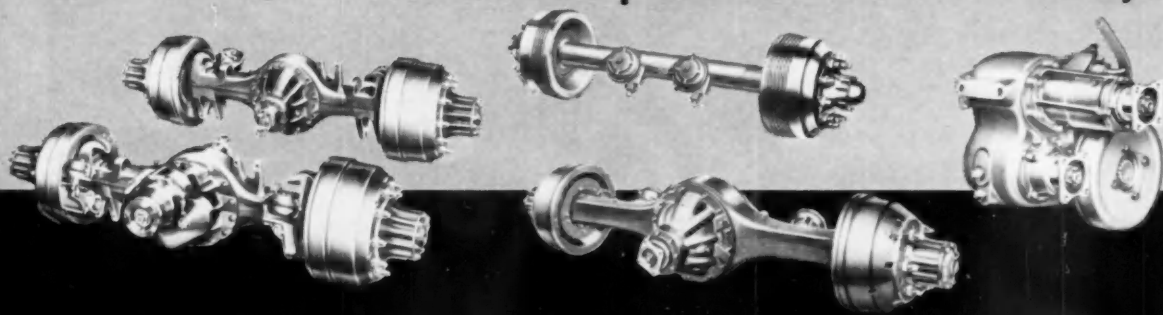
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100 BUSH STREET, SAN FRANCISCO 6, CALIFORNIA



SPECIFY...

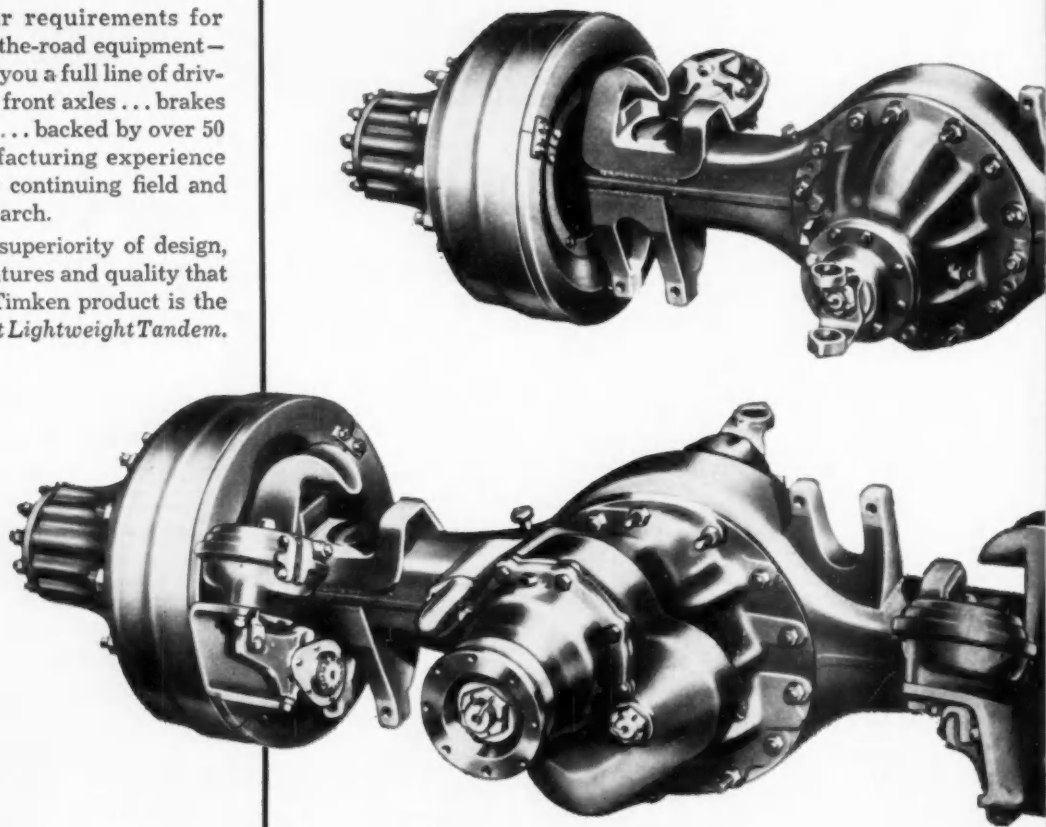
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Whatever your requirements for highway or off-the-road equipment—Timken® offers you a full line of driving, trailer and front axles... brakes and gear boxes... backed by over 50 years of manufacturing experience and proven by continuing field and laboratory research.

Proving the superiority of design, engineering features and quality that go into every Timken product is the *Timken-Detroit Lightweight Tandem*.



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## TDA® LIGHTWEIGHT TANDEM GIVES YOU...

**Greater Payload Capacity!** Up to 700 pounds lighter than any other unit of equal capacity, this new TDA tandem will give you up to 26,000 extra ton-miles payload in every 75,000 miles of operation.

**TDA Parts Interchangeability** means easier maintenance. Almost all the parts in this new tandem—gears, pinions, differentials and brakes—are interchangeable with parts from Timken-Detroit standard single axles. This assures you more productive road time... faster, simpler, more economical maintenance... and smaller parts inventory.

**TDA Inter-Axle Differential** divides torque evenly between axles... yet permits wheels of

one axle to revolve faster or slower than wheels of the other axle. This means both axles are doing equal amounts of work... driving parts and tires last longer.

**Driver-Controlled Lockout!** With TDA Inter-Axle Differential, the driver can obtain the advantages of straight-through drive under slick or icy conditions by locking out the differential at any driving speed.

**Big, Dependable Hypoid Gears** rotate in correct direction for maximum gear and bearing life.

Plants at: Detroit, Michigan • Oshkosh, Wisconsin  
Utica, New York • Ashtabula, Kenton and  
Newark, Ohio • New Castle, Pennsylvania



**WORLD'S LARGEST MANUFACTURER OF  
AXLES FOR TRUCKS, BUSES AND TRAILERS**

## Tomorrow's Engine

Continued from Page 126

problems that will require study.

However, the major problem still remains the matter of cost. It is a moot question as to when producers of these devices can get sufficient volume and sufficient simplification of design to sell them at a cost comparable with induction systems having two 4-barrel carburetors or three 2-barrel carburetors.

### Alternators Ahead?

The electrical system of cars is another area that requires radical change due to the ever growing electrical load, particularly the adoption of devices that take power continuously rather than intermittently. There is considerable speculation regarding the desirability of an AC alternator type of system. Such systems have been employed for many years in military vehicles, trucks and buses,

and on the "commercial" passenger cars such as police cars, ambulances, and other special types.

However, the present heavy duty alternator system would not be practical for standard equipment in passenger cars. For one thing, it is much too expensive as a standard equipment item, too bulky and too heavy to house in the already over-crowded engine compartment. One expert in this field said recently that no radical change should be expected for 1958 models. By 1960 he visualizes remote electric drive for many power consuming elements, including an alternator drive from the automatic transmission.

### Alternator Problems

If the alternator system is to come in the near future, it will have to be tailored specifically to passenger car requirements as to size and output and price. Moreover, it will require an entirely new concept of rectifier design. The present rectifiers employ selenium. This is a rather rare material and expensive and in limited

supply. Some experts are inclined to favor a rectifier using silicon or some other material having the necessary electrical properties and in plentiful supply.

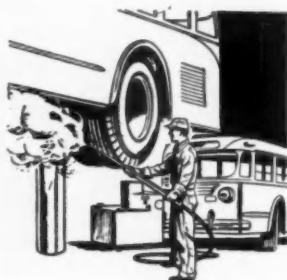
Several years ago we heard persistent rumors and, in fact, definite announcements regarding a central power system to operate the many sources in motor cars. One expert in this field said recently that he expects to see three producers supplying such a system for 1958 cars.

### Part-Throttle Operation

Finally, attention must be given to gas tank economy. Engines have grown extremely large both in displacement and output. Yet the majority of car owners still operate their cars at part throttle most of the time.

The 6-barrel carburetor set-up marks an approach to better fuel economy. The turbocharger would be an excellent approach by employing it in combination with an engine of much smaller displacement, provided over-all cost could be scaled down.

## 17 MINUTES TO CLEAN A BUS



With old methods, a school bus could be washed in 1½ hours. But now, with a Turbo Steam Cleaner, five buses can be cleaned in that same time — an average of 17 minutes per bus.

For cleaning, degreasing or sterilizing, make the Turbo Steam Cleaner your labor-saving, maintenance tool. Either oil-fired or electrically heated, the Turbo pays for itself in lower detergent costs, less downtime, more thorough cleansing.

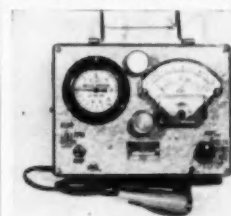


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## Turbo Steam Cleaners

### AUTO ENGINE SERVICING MADE EASY

#### WESTACH AUTO AID



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- \* AMMETER -5 to 80
  - \* VOLTMETER 0 to 16
  - \* OHMMETER—COIL—CONDENSER
  - \* TACHOMETER 6 & 12 V.
  - \* VACUUM—FUEL PUMP

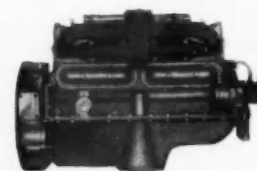
All essential tests made with one sturdy portable tester. CAT. H12V **\$95.00** complete with cover, accessories and manual.

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### Government-Rebuilt ENGINES

Hercules WXLC-3, rebuilt to highest precision standards. 6 cylinders: 4¼" bore, 4¾" stroke, 404 cu. in. displacement. Complete with governor, manifold, head, pan, water pump, oil cooler, oil filter, flywheel, housing.



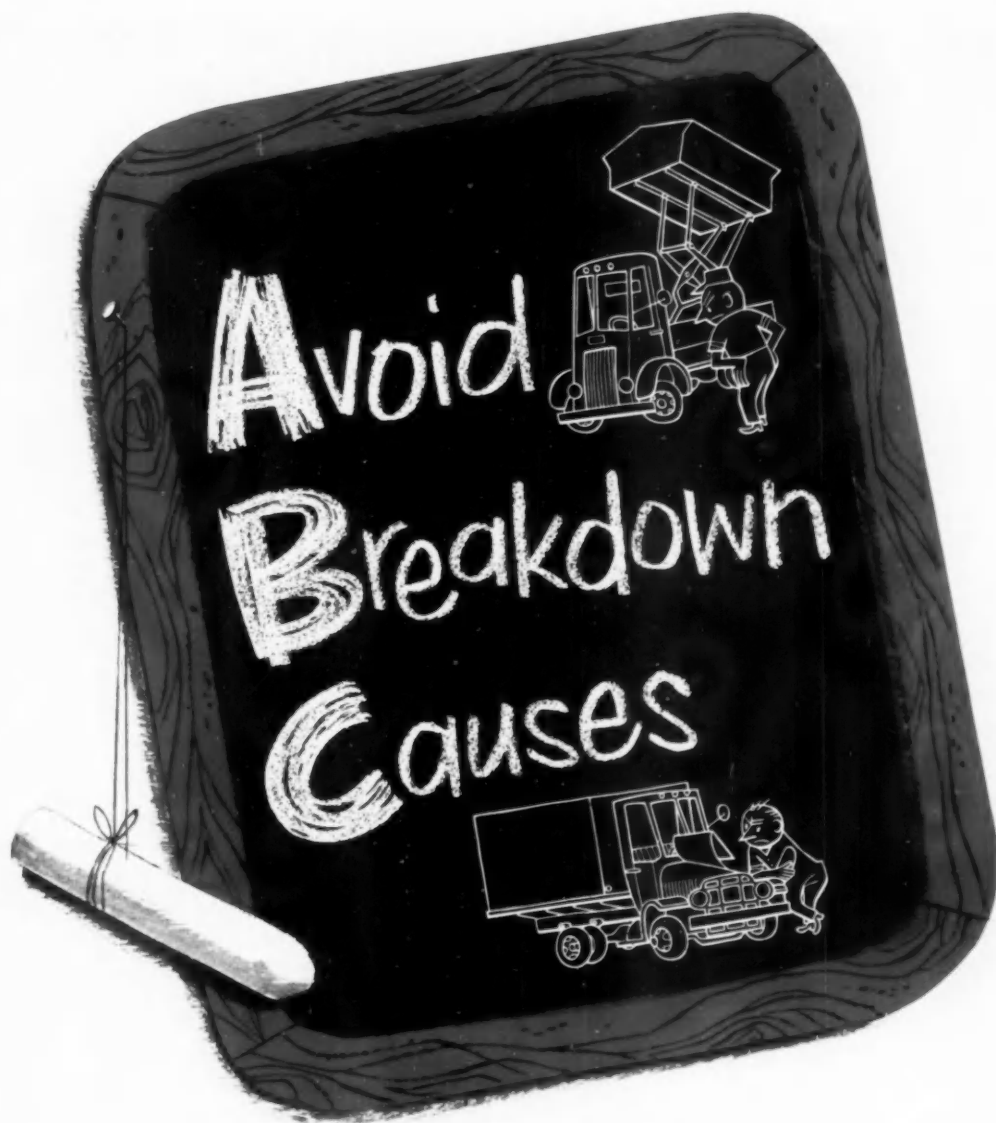
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**A. Famous quality products—Delvac Oils**—for all gasoline and Diesel engines. **New Mobilube GX**—Multipurpose-type Gear Lubricant—provides widest range of protection yet for axles, transmissions.

**Mobilgreases**—types and grades for all chassis parts, engine accessories.

**B. Lubrication engineering service**—Includes analysis of your fleet conditions . . . advice on lubrication schedules and inspection periods . . . services of expert lubrication engineers when necessary . . .

progress reports on benefits achieved. This complete service, plus our research facilities and 91 years of experience, is yours with Mobil.

**C. Simplified P.M. system**—This easy-to-follow system minimizes record keeping. You work with only a Record Folder . . . Work Sheet . . . Control Blackboard. We supply folders, work sheets—show you how to use them. You can practically eliminate breakdowns due to improper lubrication maintenance!

### SOCONY MOBIL

*Leader in lubrication for over 91 years*



*Correct Lubrication*

**A proved program  
to reduce fleet maintenance costs!**

SOCONY MOBIL OIL COMPANY, INC., and Affiliates: MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION

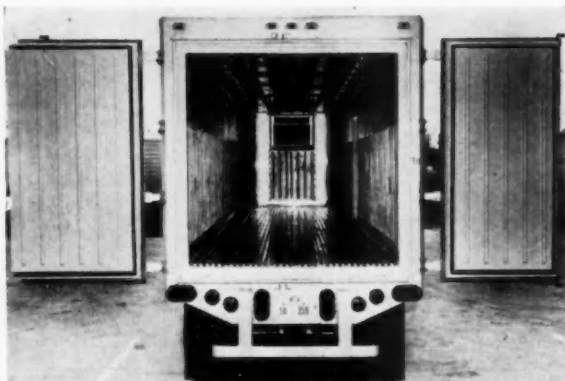
# ALTERMAN SWITCHED TO RUBATEX AFTER TESTING FOUR TYPES OF INSULATION

**Entire fleet now has solid-pack floors—the best insulator your money can buy!**

"We have been using Rubatex Insulation Hardboard exclusively for the past four years and have found it to be the best of four different types of materials we had tested.

"Rubatex is more effective because it withstands heat better—is capable of supporting and carrying the load without need of supporting cross members—can be laid solid, eliminating any possible chance of bleed-thru, making a solid-pack floor which is a better insulator than anything else."

Sidney Alterman, President  
Alterman Transport Lines, Inc.  
Miami, Florida



45 sheets of 27" x 54" x 2" Rubatex R-103-S Insulation Hardboard are used in each van. Floors of 125 Alterman semi-trailers plus 42 pick-up-and-delivery trucks are now insulated with Rubatex.



Rubatex does away with any need of uprights—cuts the weight of the trailer—greatly increases the payloads in transporting perishables to and from Florida on routes to the Northeast and Midwest states.

**RUBATEX DIVISION, Dept. C-4  
GREAT AMERICAN INDUSTRIES, INC.  
Bedford, Virginia**



For full details and sample of Rubatex Insulation Hardboard—print your name in space below, attach to your company letterhead and mail to us.

Name \_\_\_\_\_

**RUBATEX**  
INSULATION HARDBOARD

Send for Free Sample and full details

Self-supporting, load-bearing Rubatex makes it possible to install a full floating aluminum floor more effectively and at less cost than other insulating materials because they require additional support.

Rubatex cuts cost of insulating the aluminum floor and fastening as well. Saves cost of installing supports. Eliminates cost of materials used for supports. Saves labor—as work goes faster with no interference in installing any supports or work around the uprights.

Add these cost-saving advantages to the tested qualities of zero moisture pick-up, greater heat resistance than any known structural material, plus its light weight—and you have the best low temperature insulation money can buy to meet the needs of today's refrigerated equipment.

## The advantages are yours...

Unique design features of Bower roller bearings provide definite advantages in terms of profitable performance on the road.

Bower tapered roller bearings hold adjustment and pre-load longer . . . because Spher-O-Honed design gives you roller heads ground to the operating contour that other tapered bearings must acquire through run-in. Bower exclusive higher flange design provides large, two-zone contact for roller heads to improve roller alignment, cut down wear and resultant end-play.

Take advantage of Bower special features by specifying Bower tapered roller, straight roller and journal roller assemblies for your replacement needs. They are readily available through most bearings suppliers.

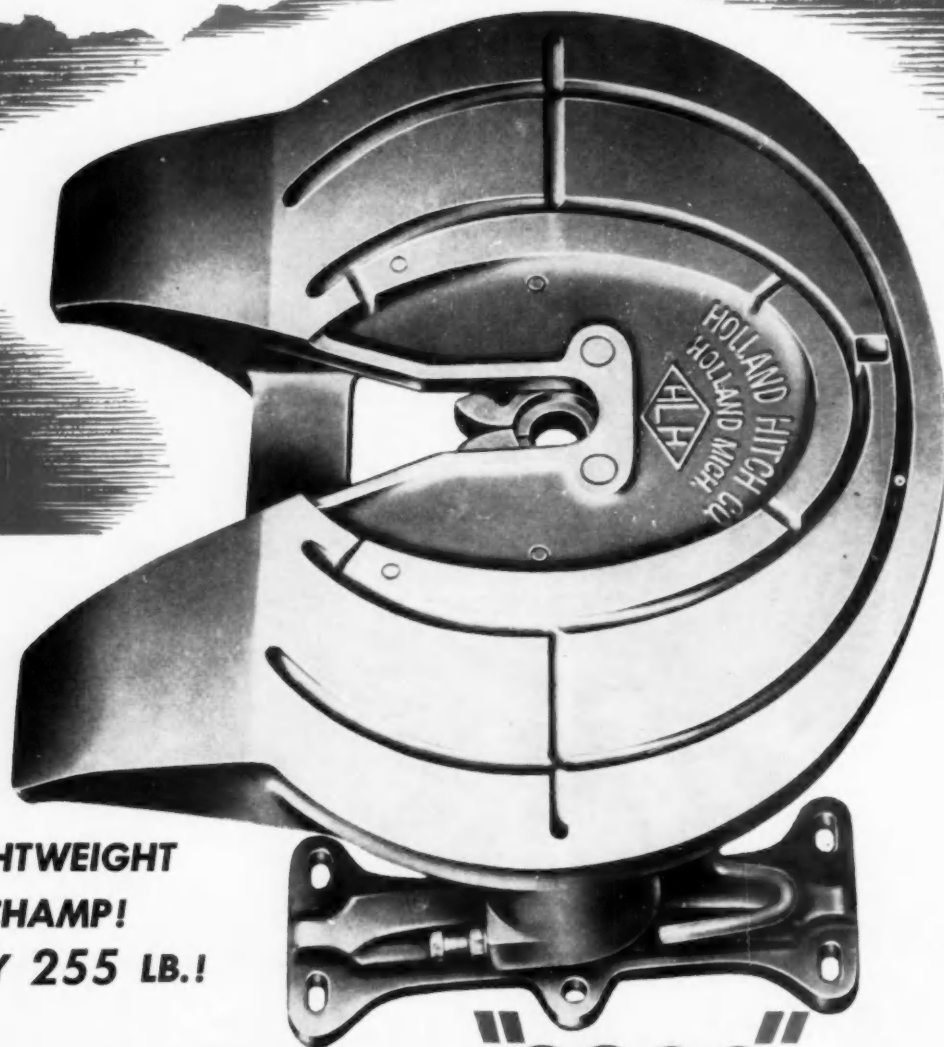


**BOWER**  
roller bearings

**FEDERAL-MOGUL SERVICE**  
DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC.



"Holland 5th Wheel Very Satisfactory"...



**LIGHTWEIGHT  
CHAMP!  
ONLY 255 LB.!**

## **The INDESTRUCTIBLE "3300"**

**WITH DROP-FORGED STEEL BRACKET**

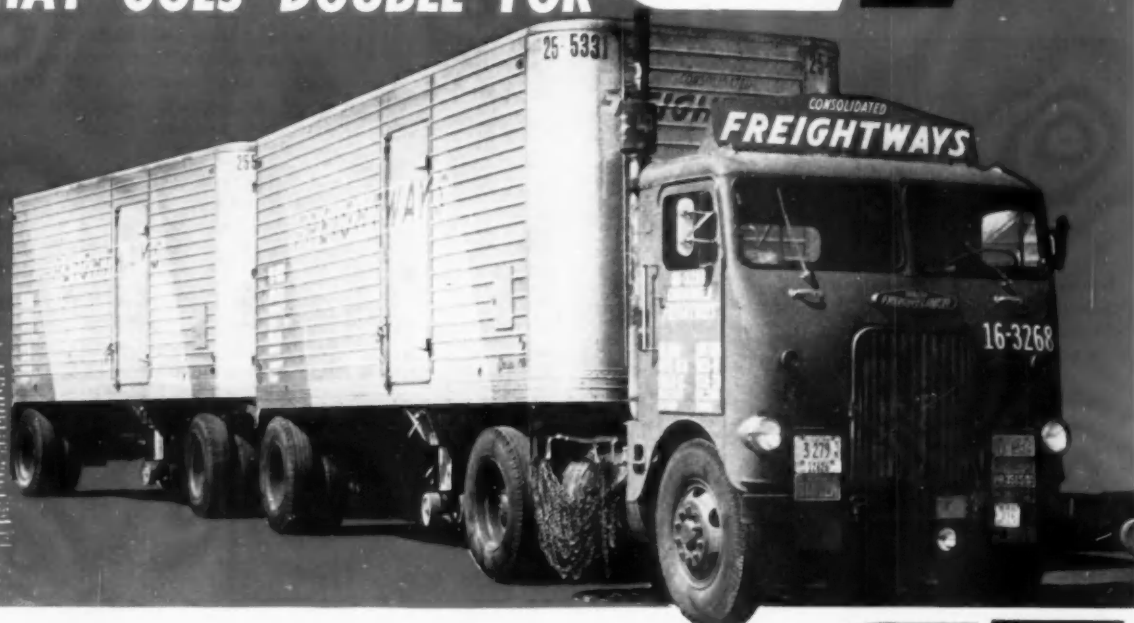
We said it and we mean it — *indestructible*. The Holland "3300" Fifth Wheel simply won't go to pieces in the heaviest continuous service. Cast steel plate rides on two forged steel balls which are integral with forged steel brackets. Brackets mount directly to tractor frame: no mounting plate required.

But there's more to the "3300" than sheer strength. It has the largest bearing area of any hitch, to assure smooth, faultless operation — and it weighs only 255 lb., allowing for greater payload. Specify Holland on your new equipment, and check with your nearby Holland distributor now on a replacement program for your present hitches.



THAT GOES DOUBLE FOR

CONSOLIDATED FREIGHTWAYS



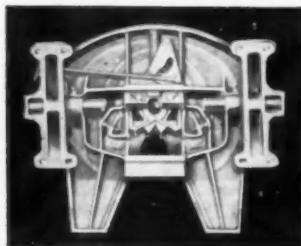
## HUNDREDS OF "3300'S" USED BY IN TANDEM OPERATIONS . . .

CONSOLIDATED FREIGHTWAYS

### EASY DOES IT, JOE!



Mechanical Spring Lock makes coupling the Holland Hitch as easy as backing into a parking space. Just a nudge does it. No ramming or battering. Easier on equipment, saves repairs and maintenance.



Holland Hitch Is The Only Company Devoting 100% Of Its Time and Manpower To Making Fifth Wheels and Allied Gear — and Is The Only Company That Offers A Complete Line of Fifth Wheels For Every Trucking Requirement.

Consolidated Freightways, Inc., is doubly sure with Holland "3300" Fifth Wheel. More than 700 of them are being used in one of the most demanding trucking operations of all — tandems. It's a big job, calling for strength, low maintenance, and minimum weight, and the "3300" measures up in every respect. "We have found the Holland fifth wheel very satisfactory in our operation," says E. B. Ogden, Vice President, Equipment Development.

You couldn't ask for more than satisfaction from any fifth wheel, and the record shows that Holland delivers. If you aren't getting the best of it from your present equipment, check with your nearby Holland Hitch distributor. He'll be glad to arrange a demonstration. Write for his name.



HOLLAND • MICHIGAN

## June News Roundup

Continued from Page 116



**Breman's Transfer and Breman's Express**, Leechburg, Pa.—to 43 men representing 115 years and 3 million miles of accident-free driving.

**Branch Motor Express**, Allentown, Pa.—to 42 road and 27 city drivers recognizing from one to 14 years of no-accident driving.

**R. B. "Dick" Wilson, Inc.**, Denver, Colo.—to 68 drivers representing 285 years and 17½ million miles of safe driving. They will be presented with ATA pins and cards in addition to special prizes for three or more years of safe driving records from the company.

**Philadelphia Electric Co.**, Philadelphia—to 207 "heroes of the road" with a total of over 61 million miles of safe driving. Individual safety rec-

## 1957 Truck Trailer Shipments

Type	March	Three Months
<b>Vans</b>		
Insulated and refrigerated	389	1,083
Steel	63	178
Aluminum	326	905
Semi-insulated	73	234
Steel	10	35
Aluminum	63	199
Furniture	185	520
Steel	165	487
Aluminum	20	33
All other closed-top	1,861	5,510
Steel	972	2,751
Aluminum	889	2,759
Open-top	244	697
Steel	157	508
Aluminum	87	389
<b>Total—Vans</b>	<b>2,757</b>	<b>8,244</b>
<b>Tanks</b>		
Petroleum	384	1,246
All other	128	353
<b>Total—Tanks</b>	<b>510</b>	<b>1,581</b>
<b>Pole, pipe and logging</b>		
Single axle	33	96
Tandem axle	86	178
<b>Total</b>	<b>119</b>	<b>274</b>
<b>Platforms</b>		
Racks, livestock and stake	189	291
Grain bodies	141	434
Flats, all types	625	1,927
<b>Total—Platforms</b>	<b>955</b>	<b>2,652</b>
<b>Low-bed heavy haulers</b>	<b>330</b>	<b>776</b>
<b>Dump trailers</b>	<b>166</b>	<b>490</b>
<b>All other trailers</b>	<b>301</b>	<b>811</b>
<b>Total—Complete trailers</b>	<b>5,138</b>	<b>14,828</b>
<b>Chassis only</b>	<b>291</b>	<b>798</b>
<b>Total—Trailers and chassis</b>	<b>5,429</b>	<b>15,626</b>

Source: Industry Division, Bureau of the Census.

ords of these men covered from 23 to 32 years.

**Olson Transportation**, Chicago—First place in Group II of the 1956

Wisconsin Motor Vehicle Fleet Safety Contest for an accident frequency of .45 for every 100,000 miles.

**Holland Motor Express**, Holland, Mich.—to 72 drivers including John Raterink, holder of Michigan Trucking Association's "Driver-of-the-Year" award, who received safe driving award pin for 21 years without a chargeable accident.

**Lee Way-Sooner Freight Lines**, Oklahoma City, Okla.—to 122 drivers, including seven with individual safety records of one million miles or more.

**Davidson Transfer & Storage Co.**, Baltimore, Md.—to 77 drivers, six of whom had more than 20 years of safe driving to their credit.

**City of Seattle, Engineering Dept.**—to 51 drivers with five or more accident-free years. Top man, Fred Vinton, with 43 years. Twenty-one other drivers, averaging a minimum of 1500 miles a year, had 30-year accident-free records.

**Lehigh Valley Transit Co.**, Allentown, Pa.—to 185 bus operators with a combined total of 735 years of safe driving.

**Federal Express, Inc.**, Indianapolis, Ind.—to 137 drivers.

(TURN TO PAGE 234, PLEASE)

## Post Office Truck Goes Commercial



Public interest in the compact Dodge now widely used by the U. S. Post Office Dept. has prompted introduction of a similar truck for use on commercial delivery routes. The new door-to-door delivery unit has a panel body with 164 cu ft of load space mounted on either a D100 or D200 chassis shortened to a 95-in. wheelbase. Controls are modified for stand-up driving. It features standard Dodge truck chassis components and is powered by a 120-hp L-head 6-cyl engine. Push-button driving controls with automatic transmission are standard. Only 169 in. long from bumper to bumper, the turning diameter is only 32½ ft to the left, 39½ ft to the right.

## New Fruehauf Composite



Fruehauf Trailer Co. has filled out its line of "Volume Vans" with new composite steel and aluminum units available in straight or drop frame design, with either exposed post aluminum or smooth panel beaded aluminum panels. The new models—VVESA with exposed post panels and VVSSA for smooth beaded sides—will be available only as 35-ft tandems. Equipment will include 10:00/20-12-ply dual tires, 16½x6 Midland air brakes, Fruehauf lightweight steel wheels, single-speed steel supports, 36-in. king pin location, 18-in. cross member spacing, steel side and sub-frame rails, 1-5/16-in. tongue-and-groove floor, steel covered plymetal rear doors, steel roof (clinch strip connection).

When you pull a wheel...

or overhaul an engine, repair transmissions,  
differentials, drive shafts and steering...



## Install the oil seals you see most

C/R

You're bound to see C/R oil seals most on vehicles you service because the majority of car, truck, tractor and engine manufacturers make C/R first choice.



Take your cue from the vehicle and engine makers... install oil seals that always fit right, seal right for maximum service—C/R seals.

C/R is the complete replacement line... made to rigid Original Equipment specifications. With C/R, you always have the right seal for every make, every model vehicle in your fleet. And C/R makes correct selection extra easy with quick-identify cartons.

Save time, install seals right every time with this new front wheel tool kit! This kit takes the struggle out of front wheel oil seal replacement for passenger cars and light trucks. Removes 'em in a wink... inserts new seals fast, assures correct seating without damage. Kit comes complete with rawhide mallet, driving tool and assorted converters. Check your supplier now—or write C/R for full details.

**CHICAGO RAWHIDE**



**MANUFACTURING COMPANY**

SERVICE SALES DIVISION Elgin, Illinois

**IN CANADA:**  
Chicago Rawhide Manufacturing Company of  
Canada Limited, Hamilton, Ontario, Canada

**EXPORT SALES:**  
Geon International Corporation  
Great Neck, New York

**CHICAGO  
RAWHIDE**

*World's Largest Manufacturer of Oil  
Seals for original equipment... offers  
the most complete replacement line!*

# Successful Test Proved the Value of using *Lincoln Multi-Luber*\*

## AUTOMATIC POWER LUBRICATION



"We installed our first Multi-Luber on our new tractor and ran it for approximately one year. After a very successful test, we started installing Multi-Lubers on all new equipment. We are so satisfied with our Multi-Luber that we installed one on our utility truck. We are planning to install Multi-Lubers on all our new equipment as we replace units in our fleet."

reports **Richard S. Clement**  
**Clement Bros., Inc.**  
**Portland, Maine**



Multi-Luber installation on Clement Bros. tractor steering assembly.

### Lubricate while you operate . . . Slash Maintenance Costs!

Multi-Luber automatically cycles with each application of the brakes, forcing a measured quantity of refinery-pure lubricant under high pressure into every bearing. Bearing surfaces are constantly flushed, and are assured a uniform protective film of lubricant whenever motor is running. Hundreds of thousands of test miles prove Multi-Luber extends service-life of bearings and moving parts, reduces down-time and cost of replacing bearings damaged due to inadequate lubrication.



Shows oil reservoir, Multi-Luber pumps, and cycle timer on tractor.

# Lincoln

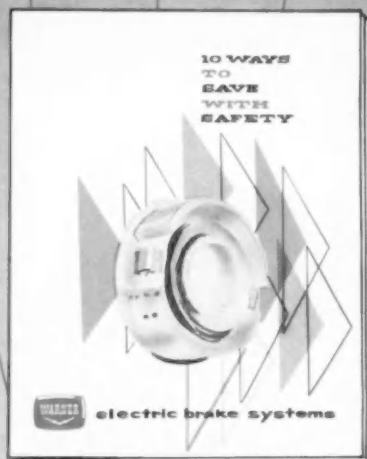
THE MOST TRUSTWORTHY NAME  
IN LUBRICATING EQUIPMENT

For full information, write today for  
Bulletins 532, 533 and 534.

\*Trade Name Registered

**LINCOLN ENGINEERING COMPANY**  
Division of The McNeil Machine & Engineering Co.  
5703 Natural Bridge Avenue • St. Louis 20, Missouri





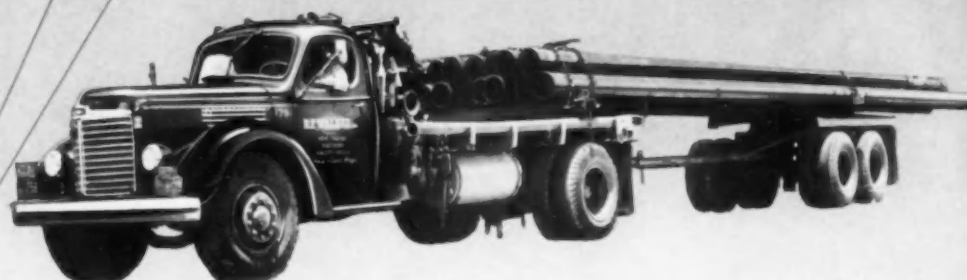
**BUSINESS REPLY CARD**  
NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

3c — POSTAGE WILL BE PAID BY — 3c

**WARNER ELECTRIC  
BRAKE & CLUTCH CO.**

BELOIT, WISCONSIN

FIRST CLASS  
PERMIT NO. 412  
Sec. 34.9, P. L. & R.  
BELOIT, WISC.



## Trailer Owners! learn how to make Safety Pay Off!



READ ALL ABOUT THE  
BIG POWER, BIG SAFETY,  
AND BIG SAVINGS OF  
ELECTRIC TRAILER BRAKING

It's off the press . . . it's yours FREE. Here's the vital book of the year in the face of today's rising costs—shows you, detail by detail, how to *save substantially* on lay-up time, labor costs, brake relining, and tires by actually *improving 10 ways* on the power, performance, and dependability of your tractor-trailer brake system!

Just send the *postage-free* coupon above for the brand new 16-page color brochure, *10 Ways to SAVE With Safety*—your introduction to the 10 startling advantages of air-electric and hydraulic-electric braking for big tractor-trailer trains. It's an exciting, powerful story, told through photos, drawings, diagrams, and fast, easy-to-read words that will make safety and savings sense to *you*! With operational costs mounting every day, you need these facts *now* as never before.



TURN THE PAGE FOR MORE DETAILS

# FREE

## ☐ 10 WAYS TO SAVE WITH SAFETY

Just fill in this postage-paid card, pull it out, and drop it in the mail . . . right now! No obligation.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

## LEARN THE DOLLAR-WISE WAY TO TRAILER SAFETY!

It's **MORE** than a big new color brochure on Warner's **Electric Trailer Brake System**! Here's the rich, fully illustrated story of the 10 major safety-and-savings advantages that electric-air or electric-hydraulic braking *adds* to your trailer operation—each *saves* you time, labor, and money *because* each helps give you bigger, faster, smoother, safer brake power. For example, the color spread shown at right lays before your eyes the *simplest* brake system ever designed for heavy-duty trailers . . . *shows* how the *fewer parts* of the Warner system give you more *premium* safety features, yet have fewer chances of failure and *require less* service!

**How to give your trailer trains greater and safer brake power . . .** and how to cut down time, service costs, and even tire costs—these are just two sides of the same story, told and illustrated on the pages shown on the right, from *10 Ways to SAVE With Safety*! To get your free copy, just pull out and send the postage-free reply card above.

**How to eliminate costly, dangerous wheel sliding on your trailers** with the only brake system that allows the driver to *adjust* trailer brake power to changing load and road conditions—this is just one of many new safety and savings advantages you'll learn about. The details are on one of the pages at right.

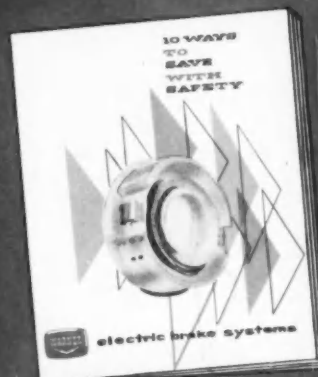
**The most direct answer to all trailer braking safety regulations!** It's given fully on the pages shown at right, from the big new book on electric-air and electric-hydraulic braking—the approach that gives you *two* independent brake systems in one, *without* complicated auxiliary valves or couplings! Send the reply card *today* for your free copy of *10 Ways to SAVE With Safety*.



**ELECTRIC  
BRAKES**

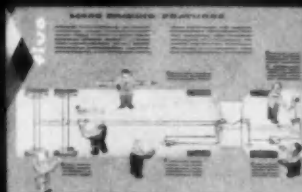
*for transportation and industry*

WARNER ELECTRIC BRAKE & CLUTCH CO., BELoit, WISCONSIN, U. S. A.



16 color pages  
photos . . . drawings . . .  
diagrams . . . startling facts . . .

**FREE**



"Since covered have dr done w in minu translu loading "The Where it now waterp tility; w

COAT

COMMERC



## “Translucent tarps of vinyl-coated nylon cut our cover-repair costs 80 per cent”

—says Mr. J. B. Cole, Jr., President, Jack Cole Company

“Since all 85 open-top trailers in our 250-truck fleet were covered with vinyl-coated nylon, our tarp-repair costs have dropped 80 per cent. The few repairs we make are done with a simple repair kit right at our terminals . . . in minutes. And the vinyl-coated nylon tarps we use are translucent. They let in plenty of light—a big help in loading operations.

“These tarps are lightweight and easier to handle. Where it used to take three of our men to cover a truck, it now takes one. We save in other ways, too: covers of waterproof vinyl-coated nylon give us greater fleet versatility; we can now use open-top trailers without fear of

water damage.”

Find out how coated nylon tarps can cut your operating costs. Ask your fabricator or supplier for information, or drop a line to: E. I. du Pont de Nemours & Co. (Inc.), 4531 Dept. CC-6 Nemours Building, Wilmington 98, Delaware.



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

**COATED NYLON FOR TARPS—LONG-WEARING . . . LIGHTWEIGHT . . . EASY TO HANDLE**  
**. . . WATERPROOF . . . RESISTANT TO ROT AND MILDEW**

**It will cost you money  
if you miss  
the exciting news in  
Commercial Car Journal  
next month!**

.....

An improved commercial 5° rim  
from Cleveland Welding,  
designed to meet the demands  
of today's 'speed-age' of trucking,  
will be presented in July.  
It will pay you to know all the facts.

.....



**CLEVELAND WELDING DIVISION**  
AMERICAN MACHINE & FOUNDRY COMPANY  
Cleveland 11, Ohio

Cleveland Welding is America's largest truck rim specialist

Look over  
Belts\* w  
generator

The re  
that won'  
stand up  
more beca  
for ounce

How ca  
Cog-Belts  
buying the  
Look for  
strength-g

© D. R. 1957

**Dal**  
Wo  
Maker

COMMERCIAL



# The Big Power Plants Come Equipped with **Dayton** Raw-Edge Cog-Belts\*



Look over your new equipment and you'll see Dayton Cog-Belts\* wherever the job's the toughest . . . on the big generators . . . the compressor . . . the alternator drive.

The reason? Sure gripping Cog-Belts have raw-edges that won't slip or glaze, aren't affected by oil or grease, and stand up under extreme underhood heat. And, they'll pull more because they're built of synthetic fibers that—ounce for ounce—are stronger than steel.

How can you be certain you're getting the advantages of Cog-Belts? Cog-Belts are easy to recognize even when you're buying them under the vehicle manufacturer's part number. Look for raw edges and molded cogs, built right in as a strength-giving part of the belt.

© D. R. 1957

\*T. M.

## Dayton Rubber

World's Largest Manufacturer of V-Belts . . .

Makers of Heavy Duty Radiator Hose and Famous  
Dayton Thorobred Truck Tires . . .

Pioneer Supporter of ATA Foundation

Keep Cog-Belts within easy reach. Longer lasting Dayton Cog-Belts not only save you time and money by keeping your repair bays open but you can replace your present inventory with about 2/3 the number of Cog-Belts.

Streamline your inventory and start saving, today, with a call to your Dayton distributor. Or, mail this coupon.

The Dayton Rubber Company • Automotive Division  
10 Rubber Street • Dayton, Ohio



- ☐ Please send me the address of my nearest Dayton Rubber Company jobber.
- ☐ Please notify me when the Dayton Fleet Engineer can analyze our problems.

name \_\_\_\_\_

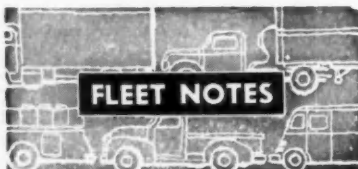
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address \_\_\_\_\_

city \_\_\_\_\_ state \_\_\_\_\_

## June News Roundup

Continued from Page 226



**MK&O Transit Lines**, Tulsa, Okla.—100 new 45-passenger General Motors buses. They'll be put into service when the company takes over the city's bus service July 1. **New York Transit Authority**—209 General Motors diesel buses. They will be equipped with air springs and "molded plastic seats designed to withstand damage by juvenile delinquents."

In other fleet developments: **Ringsby Truck Lines, Inc.** installed mobile radio equipment in 20 local pickup trucks at its Salt Lake City terminal. **Rollins Leasing Corp.**, Wilmington, Del., opened a new truck and car rental service at Los Angeles, Cal. The company offers daily rental and long-term leasing arrangements.

**Aero Mayflower Transit Co.**, Indianapolis, Ind., added four new agencies. They are: **Victor Storage and Moving Co.**, Chicago; **Julka Moving & Storage Co.**, Fond du Lac, Wis.; **Fischer Trucking Co.**, Washington,

Mo.; and **Reliable Transfer & Storage**, Muskogee, Ill.

**Ward Trucking Corp.**, Altoona, Pa., opened a new terminal at North Bergen, N. J. It's adjacent to Ward's existing terminal, providing separate facilities for inbound and outbound operations. **Merchants Motor Freight, Inc.**, St. Paul, Minn., opened a new 43-door, \$300,000 terminal in St. Louis, Mo. It features an axle load scale, pneumatic tube system.

**The Hertz Corp.**, Chicago, acquired **Abbey Rentals, Inc.**, New England and Florida car rental operation. Hertz also reported 1956 consolidated net income, after taxes, of \$4,759,418. **Wisconsin Motor Carrier Assn.** conducted tests at the University of Wisconsin Truck Research Center in answer to driver complaints that certain brands of tires are more subject to skidding than others.



**Brockway Motor Trucks** division of **Mack Trucks Inc.** has appointed **B. Russell Cowper** as Philadelphia district manager. **Price Battery Corp.**, Hamburg, Pa., has announced three staff changes. **D. S. Shipley** has been named assistant general sales mana-



**W. L. Peterson**, director, sales promotion and advertising, **The White Motor Co.**

ger; **Sterling Smith** has been appointed sales engineer; and **Roy W. Shreiner** has been appointed regional sales representative for the Pittsburgh area.

**Signal-Stat Corp.**, Brooklyn, N. Y., has named **Tom Cogan** as assistant sales manager. **The AP Parts Corp.**, Toledo, Ohio, has promoted **Cleo J. Wheaton** to territory manager for 14 central California territories with headquarters in San Francisco.

**Ford Division**, **Ford Motor Co.** is now distributing a new body builder's layout book giving complete engineering measurements of the 1957 Ford trucks. The book will enable body builders to begin construction of bodies for the new models before they receive the actual chassis.

**The Curran Corp.**, Lawrence, Mass., reports that its product **Tarlene** may be used to remove tar from the new **Lucite-Acrylic** paints by diluting it with 1 to 2 parts of kerosene. **Olin Mathieson Chemical Corp.** has a new \$1½ million anti-freeze formulating and packaging plant under construction at Mapleton, Ill.

### Power for House Trailers



Delivery of house trailers has grown into such a big business that a special truck is being built for that purpose. Dodge estimates there is a potential market for 1000 of these trucks. Truck is a C-100 pick-up with a 204-hp V-8 engine, 4-speed heavy-duty transmission, dual rear wheels, rear axle from the C-300, a special large-capacity radiator. It meets ICC safety requirements and 60-ft maximum length with a 45-ft house trailer.

### Highway's Bulk Cement Trailer



Frameless dry-bulk trailer for handling dry bulk cement, lime, grain, and other pulverized materials is being introduced by the **Highway Trailer Co.**, Edgerton, Wis. Trailer can be automatically unloaded from any angle or slope by power driven screw conveyors within the tank. Dual outlets at the rear of the trailer permit cargo discharge at a maximum rate of seven barrels per minute.

for



In the  
Mr. Ogden  
500 tr  
JENNY

HYPR

STE

COMMERC



New Series "1250" Hypressure Jenny

## Hypressure JENNY Steam Cleaner saves approximately \$13,000 a year for Continental Transportation Lines, Inc., McKees Rocks, Penna.



Fred W. Ogden,  
Maintenance Supt.,  
Continental  
Transportation  
Lines, Inc.

In the McKees Rocks repair shop, Mr. Ogden services and maintains 500 trucks. He uses Hypressure JENNY for cleaning before major

overhaul . . . cleaning parts . . . under carriages of tractors and trailers, and before repainting. On these routine maintenance jobs, JENNY saves him 100 man-hours of labor a week, or approximately \$13,000 a year in maintenance expense. As an extra bonus, JENNY'S removal of accumulated mud and silt from running gear, permits the handling of

bigger truck pay loads which makes for a more profitable over-all operation.

"We couldn't operate efficiently without Hypressure JENNY," says Mr. Ogden. "It does a top flight job in our establishment."

JENNY will make comparable savings in *your* maintenance shop, too. Write for the complete story.

MAIL THIS COUPON TODAY →

HYPRESSURE  
**Jenny**  
STEAM CLEANER

Please send full particulars on

☐ Hypressure Jenny ☐ Jobber Time Payment Plan ☐ Trade-in

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

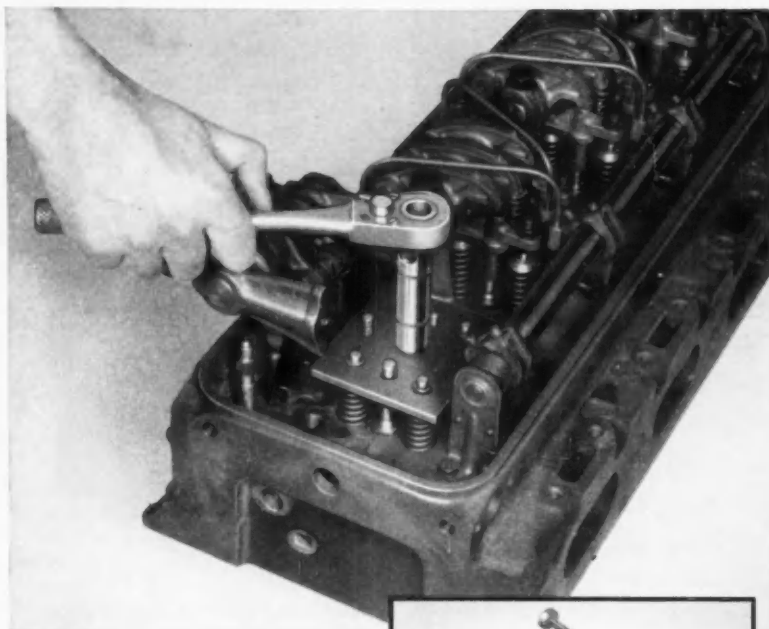
. . . division of HOMESTEAD VALVE MANUFACTURING COMPANY

P.O. BOX 90

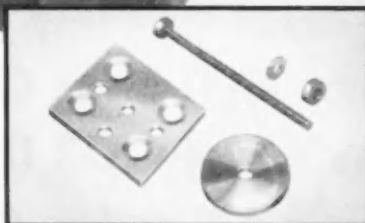
"Serving Since 1892"

CORAOPOLIS, PA.

# Eliminate "Boomerang" Jobs



Compressing all four valves at the same time with this Kent-Moore Valve Spring Compressor, leaves both hands free to do a fast and efficient job.



## Now—tools for complete service maintenance of new GM Detroit Diesel 4-Valve cylinder heads

Consider, for a moment, the expense of "boomerang" jobs—those you figured completed but return with perhaps more extensive damage. Kent-Moore now offers six tools that deliver *complete* service maintenance on the new G.M. Detroit Diesel 4-valve head engines. Now you can perform all these jobs in your shop: (1) locate correct depth for gripping and removing hardened steel inserts, (2) insert valve seats without damage to cylinder heads or inserts, (3) automatically center

your tool when driving guides from the cylinder block, (4) automatically position the guide into cylinder heads, insuring factory-type tolerances, (5) compress all four valves simultaneously to remove keepers, valve springs and caps—with *both hands free*, (6) check valve lash on hot or cold engines for factory-type adjustments. Tools are available for similar operations on the standard 2-valve head engines produced by G. M. Detroit Diesel.



5743

236

# KENT-MOORE

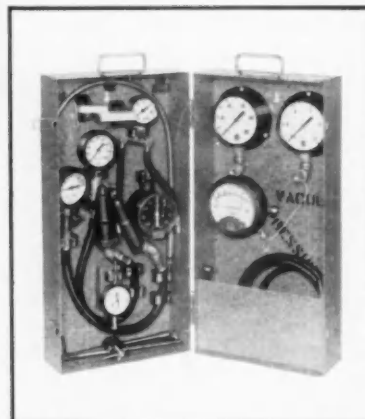
## ORGANIZATION, INC.

1501 SO. JACKSON STREET • JACKSON, MICHIGAN

ENGINEERS AND MANUFACTURERS OF SPECIAL SERVICE TOOLS AND EQUIPMENT

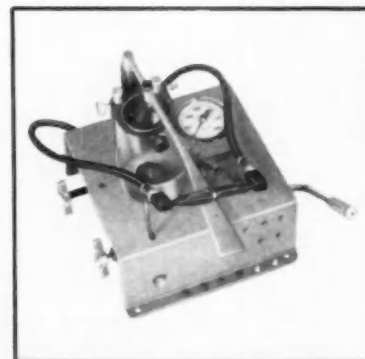
### TIPS

ON HOW TO CUT "DOWN TIME" AND COSTS WITH SPECIAL EQUIPMENT BY KENT-MOORE



### J 4209-41 Diesel Diagnosis Test Kit

This kit saves you money twice. First by hunting down trouble *during* check-up before minor trouble causes expensive damage in the engine. Secondly, by helping you to speed up repairs by quickly locating the exact trouble. Easily check timing, compression, exhaust back pressure, engine RPM, blower intake, restriction, air box, oil and crankcase pressure, and cylinder liner position on all Series 71 and Model 6-110 GM Diesel Engines. Compact and portable, too.



### J 7000 Injector Tester

This single Kent-Moore Rate-Maker tool performs all six tests specified for Series 51, 71 and 110 GM Diesel Engine Injectors. No special conversion units or individual holding fixtures to bother with. Sturdy 3000 pound gauge with "lazy hand" operation, micronic filter, adjustable popping handle, and other features combine to make this unit pay off fast in your shop.

COMMERCIAL CAR JOURNAL, June, 1957





Hendrickson RSAA Suspensions give Matlack tankers a safer, easier, floating ride.

## Matlack's "Pipeline on Wheels" rides on Hendrickson rubber tandems

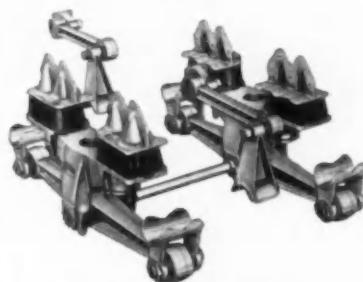
Matlack's "Pipeline on Wheels" includes 60 Butler Tank Trailers, from 6,200 to 7,500 gallon capacity, all equipped with RSAA Hendrickson Rubber Tandems for a *real* floating ride.

Says Ed Matlack of E. Brooke Matlack, Inc., liquid transporter of Philadelphia: "Performance of the Hendrickson Suspension is excellent. We experience no brake hop or chatter when riding empty with Hendricksons . . . and we've spent no money on maintenance or on adjustment.

"The Hendrickson RSAA Suspension is lighter by 100 lbs. That's a most important factor to us, too."

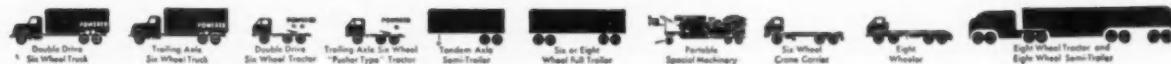
Average mileage on trailer is 100,000, and they are adding 5,000 to 6,000 miles a month. Matlack covers 21 states and the District of Columbia, carrying more than 300 different oils, chemicals, medicines, inks and other liquid products for home and industry.

To haul heavier payloads faster, economically—under all road and load conditions—equip your rigs with Hendrickson tandems. They stabilize the load, assure perfect axle alignment, end tire scuffing . . . all important factors in safe, trouble-free operation. Call Hendrickson now for complete information on your application.



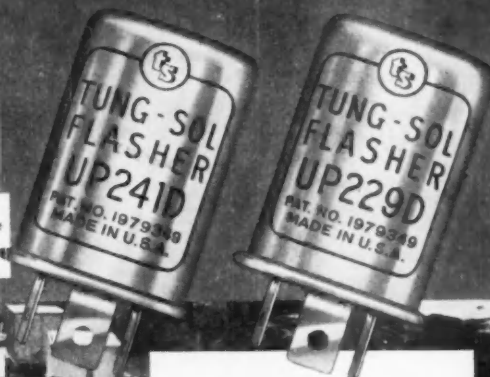
**HENDRICKSON**  
*Mfg. Co.*

**HENDRICKSON MFG. COMPANY**  
8001 WEST 47th STREET  
LYONS (Chicago Suburb), ILLINOIS



# A COMPLETE LINE OF SIGNAL FLASHERS *for Fleets*

"UP" designation means flasher is interchangeable with flashers of the same part number series.



## TUNG-SOL SIGNAL FLASHERS

### 6-Volt Passenger Car and Light Truck

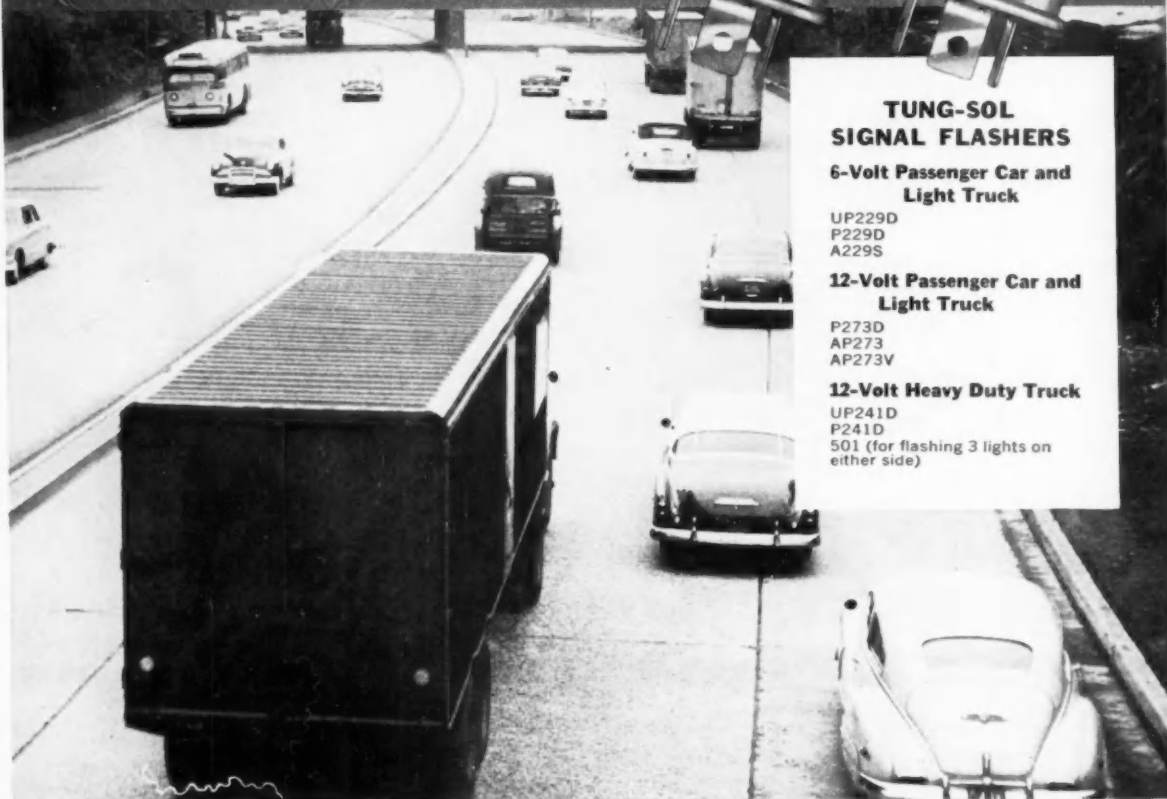
UP229D  
P229D  
A229S

### 12-Volt Passenger Car and Light Truck

P273D  
AP273  
AP273V

### 12-Volt Heavy Duty Truck

UP241D  
P241D  
501 (for flashing 3 lights on  
either side)



Whether your fleet is passenger cars, light trucks or the big jobs, the line of Tung-Sol Flashers contains every type you need for signal system service.

Tung-Sol Flashers are the same flashers the overwhelming majority of vehicle manufacturers specify as initial equipment.

Insure the signalling reliability and dependability your fleet must have. Replace with Tung-Sol Flashers!

Tung-Sol Electric Inc., Newark 4, New Jersey.



Bracket is attached  
in place of special  
flasher mounting.

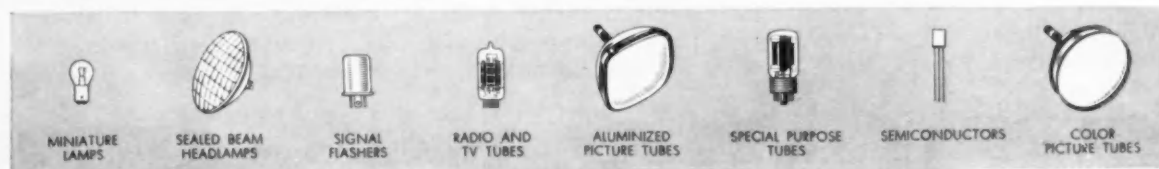
Bracket holds  
flasher vertically—

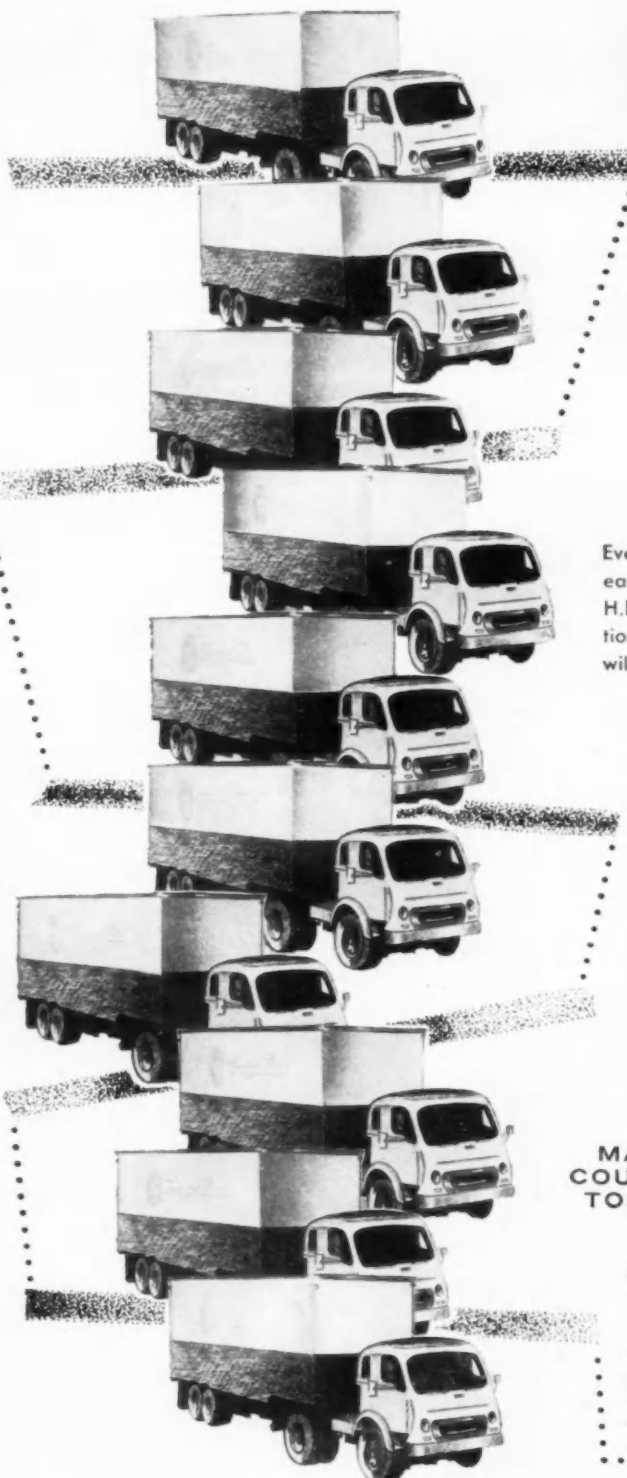


—or horizontally.



## **ts** TUNG-SOL SIGNAL FLASHERS





# VALVOLINE

**will  
protect the  
POWER OUTPUT  
in your  
FLEET!**

Every unit in your fleet must consistently maintain top earning power . . . and they can . . . with VALVOLINE H.D. SUPER HPO OIL! It gives them the needed protection against clogging, grinding sludge deposits, which will rob any motor of power output.

For a longer life between overhauls for every unit of your heavy-duty diesel or gasoline powered equipment, try the power efficiency in VALVOLINE H.D. SUPER HPO today!

**VALVOLINE X-ALL  
ALL PURPOSE GREASE**

Saves you space, money, inventory and mistakes. X-ALL is a tough, wear-resistant, water-repellent, adhesive grease. It assures outstanding performance, even under extreme heat and heavy load conditions.

**MAIL  
COUPON  
TODAY**

**VALVOLINE OIL COMPANY**  
(Div. of Ashland Oil & Refining Company)  
Dept. CCJ-657, Freedom, Pennsylvania.

I am interested in complete information about:  
Valvoline Heavy Duty Oil  
Valvoline X-ALL All-Purpose Grease

Name \_\_\_\_\_  
Firm Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

**VALVOLINE OIL COMPANY**  
(DIV. OF ASHLAND OIL & REFINING COMPANY)  
**OFFICES AND REFINERY - FREEDOM, PENNSYLVANIA**

# Let the men who make 'em—fix 'em

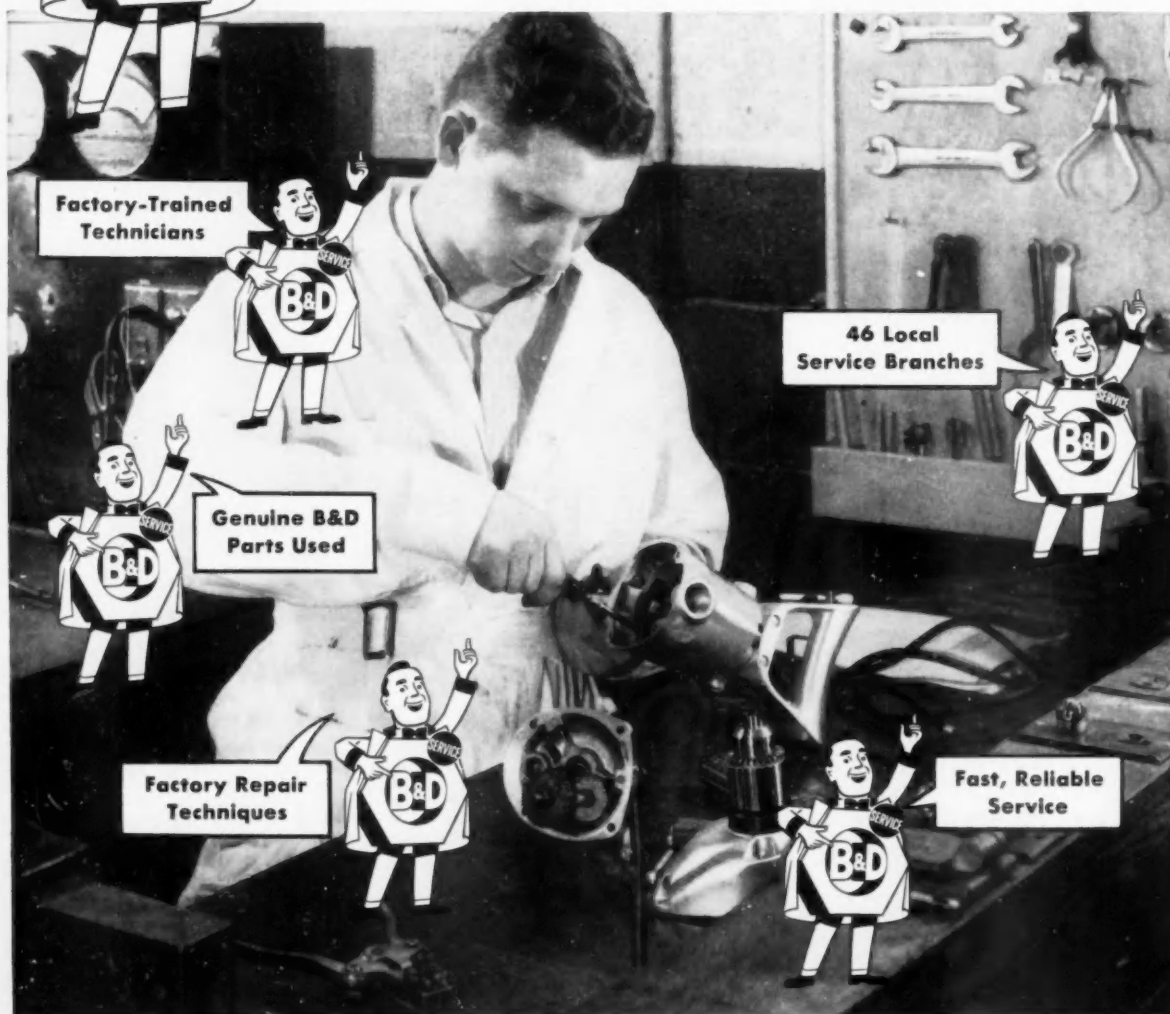


Swiftly Service says: "Local Black & Decker Factory Service Branches keep B&D Tools in new tool shape."

Your Black & Decker Factory Service Branch was set up to give you the *fast*, expert help we pledged when you first chose Black & Decker. Take advantage of the quick, economical service available near you—no need to return your tool to the factory. If you have a tool that's limping along, get it back on the job faster by

bringing it in to any one of our 46 Service Branches. Won't cost you a cent to let our factory-trained technicians look it over.

Look in the *Yellow Pages* of your telephone book for the Black & Decker Service Branch nearest you, or write us for address: THE BLACK & DECKER MFG. CO., Dept. S4606, Towson 4, Maryland.



Factory-Trained Technicians

46 Local Service Branches

Genuine B&D Parts Used

Factory Repair Techniques

Fast, Reliable Service

**FREE Tool Inspection:** Your local Service Branch will be happy to examine your B&D Tool with absolutely no obligation on your part.

**B&D Standard Guarantee** applies to all repair work.



Look in the "Yellow Pages" for your nearest Factory Service Branch



**Black & Decker®**

PORTABLE ELECTRIC TOOLS





**SEIBERLING WILL GUARANTEE to you,  
in writing, A LOWER COST PER MILE**

*Seiberling truck tires will give you a lower cost per mile than any tire of any make that you have ever used. This is a statement of fact, guaranteed to you in writing by Seiberling Rubber Company and backed by Seiberling's 36 years of integrity and skill in manufacturing quality truck tires.*

We will prove it to you on your fleet, with our "Two and Two Test" fitted to your fleet operation. Send in the coupon.

Mr. L. M. Seiberling  
Vice President in Charge of Sales  
SEIBERLING RUBBER COMPANY  
Akron 9, Ohio

Please send your representative, and prove to me that I will reduce my tire costs with Seiberling tires.

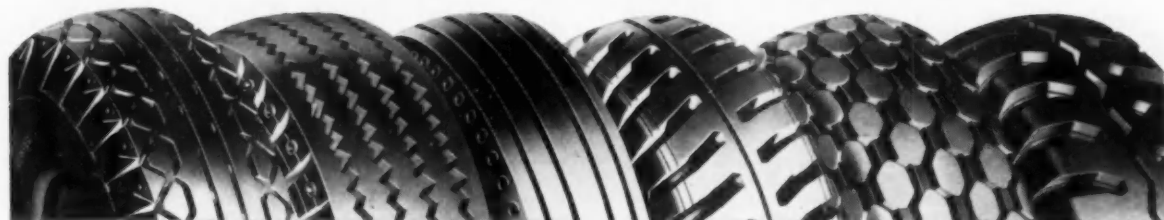
Name \_\_\_\_\_ Title \_\_\_\_\_

Firm Name \_\_\_\_\_

Address \_\_\_\_\_

Street City Zone State

**SEIBERLING RUBBER COMPANY**



**A TIRE FOR EVERY ROAD AND LOAD**

## Manufacturers' Literature

(See Page 44 for Fleetman's Library)

**Door opening electric motors** for terminal and garage doors are described in this new bulletin from General Electric Co. For a free copy, circle L 4 on the postcard on page 246.

**Piston ring sets** covering 1930 to 1957 model cars, trucks, buses, tractors are shown in this new catalog from Ramsey Corp. Circle L 5 on the postcard for your free copy.

**Engine block repair equipment**, kits and instructions are included in a new bulletin from Automotive Products Division, Metallizing Co. of America. For a free copy, circle L 6 on the postcard.

**Lube fittings** as made by Alemite Division, Stewart-Warner Corp., are fully pictured and described in this new catalog. Included are recommended applications. Circle L 7 on the postcard on page 246 for your free copy.

**Trailer data** just published by Fruehauf Trailer Co. includes a description of its new "Cattle Cruiser" livestock trailer (circle L 8 for free information), its new furniture "Volume Van" (circle L 9) and its new cable-dump trailers (circle L 10).



"I can't understand it. I wasn't overloaded when I left Fresno!"

**Automobile Repair Manual** just off the press covers all models from 1940 to date. About 3000 pictures and charts supplement the easy-to-read text. For information, write Book Division, Chilton Co., 56th and Chestnut Sts., Philadelphia 39, Pa.

**Wheel aligning and wheel balancing equipment** made by John Bean is covered in three new publications. For data on wheel aligning equipment, circle L 11. For information on wheel balancing units, circle L 12. For description of wheel balancing and aligning accessories, circle L 13.

**Portable and hazard warning lighting** from kerosene lamps to transistorized highway warning flashers are

covered in this new catalog from R. E. Dietz Co. For your free copy, circle L 14 on the postcard on page 246.

**Rock bodies**, "Boulder Dam" style, as made by Daybrook Hydraulic Division in to 15-cu-yd capacity are covered in two new bulletins you can get free by circling L 15 on the postcard.

**Flaw detection** with fluorescent materials is summarized in this new catalog from Magnaflux Corp. Circle L 16 for your free copy.

**Truck stop directory** available without charge by circling L 17 on the postcard lists and describes the services available at 163 Pure Oil Co. truck stops as well as 64 credit exchange stations.

**Euclid Model No. TC-12 tractor** maintenance bulletin featuring a pivot shaft removing tool is available without charge from Owatonna Tool Co. by circling L 18 on the postcard on page 246.

**Battery, alligator, test, pee-wee and wee-pee-wee clips** are illustrated and described in this new catalog from Mueller Electric Co. Circle L 19 on the postcard for your free copy.

**Hose clamps** as made by Wittek Mfg. Co. for almost all applications are covered in this new catalog you can get without charge by circling L 20 on the postcard on page 246.

### Hydraulic Starting



Down Texas way they've installed a hydraulic starter on this truck. The unit, built by Hydromotive, Inc., Cleveland, Ohio, operates on SAE 10 oil. Oil is pumped into an accumulator from a reservoir. When sufficient pressure is reached, as indicated on a dash-mounted gage, driver opens control valve and oil is released from accumulator to hydraulic starter to spin engine. Pressure is rebuilt by an engine-driven oil pump or small electric motor-driven unit. A hand pump is included for emergencies.

### Compact Compactor



A 14 cu yd packer body mounted on an International-Harvester Model No. SM-160 truck with Metro cab has recently been purchased by Allen's Sanitary Service to serve the suburban Sioux Falls, S. D., area. The packer body, manufactured by the M-B Corp., New Holstein, Wis., is mounted on a 149-in. wheelbase. Allen anticipates speeded garbage and refuse collection since the smaller truck is highly maneuverable and can operate in narrow drives and alleys quickly and easily.

Check the cost and see...

# THERMO KING

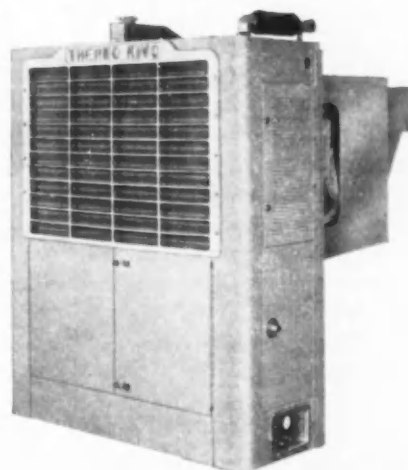
TRUCK REFRIGERATION  
**COSTS LESS**

- to own
- to operate
- to maintain

**It costs less to own** because it's produced in volume by the leader in the truck refrigeration field. This means a lower selling price.

**It costs less to operate** because of its exclusive start-stop system. It doesn't just idle down—it shuts off the engine completely when your load has reached the proper temperature, and starts again when needed.

**It costs less to maintain** because 20 years of engineering advancement has perfected the unit with fewer parts, maximum cooling, and trouble-free operation. Your best truck refrigeration buy is **THERMO KING**.



NATIONWIDE SERVICE: Thermo King service stations on all important truck routes in United States, Canada and Mexico

THERMO KING CORP., 44 S. 12th ST., MINNEAPOLIS 3, MINN.

# which 5th wheel coupling is best:



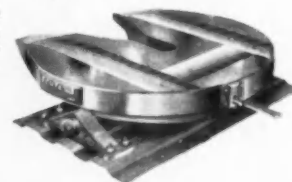
## Fontaine **NO-SLACK**® 5th wheels give you trouble-free service with a high safety factor

Operators have long known that slack, no matter how it may be cushioned, is dangerous. The banging and jerking that slack causes wear out the vital working parts of trucks and trailers. It costs money to repair and replace these parts, and, because slack causes them to wear out faster, the accident ratio increases. The Fontaine 5th Wheel eliminates this excess wear because *there is no slack*. Your truck and trailer operate like one unit when they're coupled by Fontaine.

There are no shims or rubber bushings in the Fontaine "No-Slack" 5th Wheel. None are

needed. The jaw and wedge extend as a solid barrier of steel across the throat of the wheel, locking the kingpin in completely. Slack is eliminated. So is the danger of lockout. The kingpin can trip the locking jaw only when it is in proper locking position.

For complete details, write for the new descriptive literature that gives full information on the Fontaine "No-Slack" 5th Wheel line. There is no obligation of course.



*Fontaine 5th Wheels are sold nationally through truck dealers*

**Fontaine Truck Equipment Co., Inc.**  
1232 North 37th Place  
Birmingham 1, Alabama





**OVER-ALL ECONOMY.** The extras offered by nylon cord tires—fewer tire repairs, fewer road delays, more retreads, lower tire inventories—mean more miles per tire dollar . . . greater over-all economy.



**ROAD DELAY** due to blowout of damaged sidewalls is eliminated for Golden State trucks by nylon cord tires. Nylon guards against every major cause of tire failure—flexing, moisture, heat and impact.

◀ **MORE MILEAGE.** Golden State carries loads up to 38 tons in twenty-four-hour-a-day operation. With retreading, their vehicles average in excess of 175,000 miles on nylon cord tires. Truckers find nylon casings strong enough to be retreaded again and again for thousands of safe, extra miles.

THIS FLEET OPERATOR REPORTS:

## "NYLON ENDED BLOWOUTS DUE TO TIRE CORD FAILURE"

J. J. Burke, Operations Superintendent for the large truck fleet of the Golden State Division of Foremost Dairies, reports: "Before we switched to nylon cord tires, we were having a lot of blowouts due to sidewall bruise damage—especially in areas where trucks had to leave the highway for ranch pickups. With nylon cords, we haven't had a single blowout due to sidewall failure; and believe me, when we're trucking 38 tons of perishable milk through 105-degree temperatures, we really need that dependability."

**PROVE TO YOURSELF** that the advantages of nylon cord tires add up to big savings under any road and load condition. Ask your dealer about nylon cords today. Du Pont makes the tough, long-lasting nylon. Nylon cord tires are available from all tire makers.



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

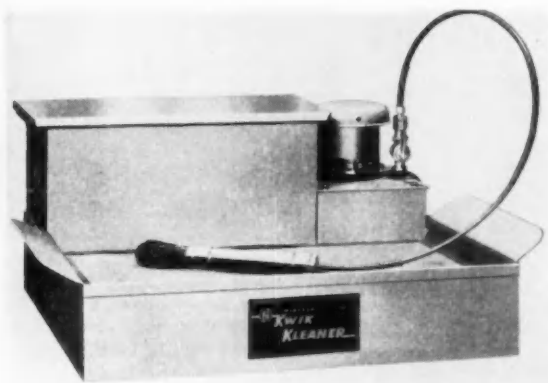


**FOR TRUCKS AND PASSENGER CARS, TOO . . .  
THE STRONGEST, SAFEST TIRES ARE MADE WITH NYLON CORD**

# NEW

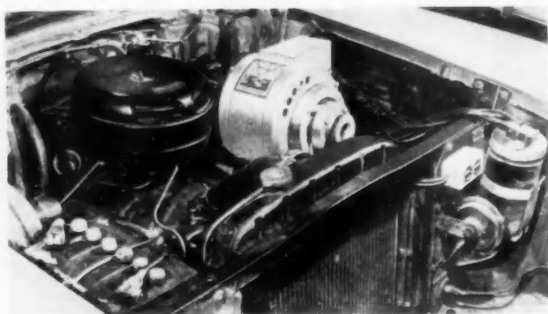
# PRODUCTS

THE LATEST DEVELOPMENTS IN PARTS, ACCESSORIES, TOOLS AND EQUIPMENT FOR THE FLEET FIELD, DESCRIBED IN BRIEF FOR YOUR CONVENIENCE



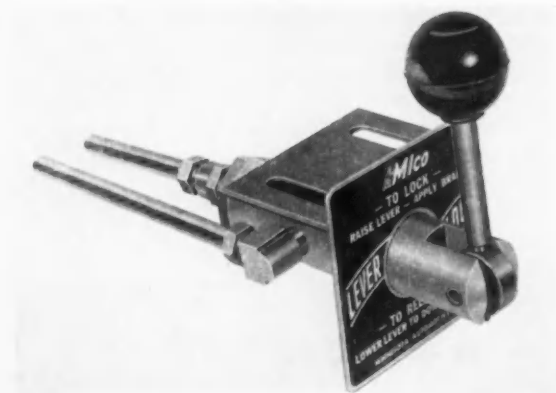
## P1. Parts Cleaner

Nielsen Saw and Manufacturing Co., Roseburg, Ore., is now marketing a small parts cleaning machine which pumps solvent through a brush handled by the operator. The unit is 20 x 20 in. and is powered by a 115 volt motor. The machine includes a built-in pump, lift-out basket, fountain brush, and a soak tank which holds parts as large as 12 x 20 in. With the basket, the tank can be used for small parts or as a carburetor cleaner using a special fluid. The flow of cleaner through the brush can be adjusted, and the cleaning fluid itself is filtered and recycled.



## P2. AC Generator

Electric Controls, Inc., Wales, Wis., has developed a new heavy duty electric generator to provide 115-volt single-phase AC power. According to the manufacturer, this generator will operate electric tools when there is no convenient electric power service available. It will operate motors up to two hp and can be mounted on and driven by most truck and tractor engines.



## P3. Brake Lock

Minnesota Automotive, Inc., Mankato, Minn., has introduced a new hydraulic parking lever lock. According to the manufacturer the lock works on all automotive, truck or bus hydraulic systems regardless of make, model, year or capacity. Manually operated, it does not interfere with normal brake operation. To set, operator simply raises the lever and steps on the foot pedal, thus supplying safe holding power. All necessary fittings are packaged with the unit.

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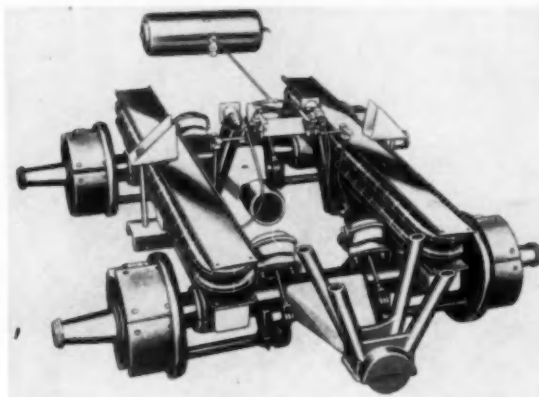
#### P4. Axle Conversion

Fontaine Truck Equipment Co., Inc., Birmingham, Ala., now offers an axle assembly designed to convert single or tandem axle truck-tractors to tandem or three-axle tractors by coupling the assembly to the existing fifth wheel. The unit features an adjustable king pin and incorporates the Fontaine Sliding Fifth Wheel which makes it possible to adjust axle spacing and compensates for various types of trailer equipment such as tandem or single axle and oval, round or square fronts.



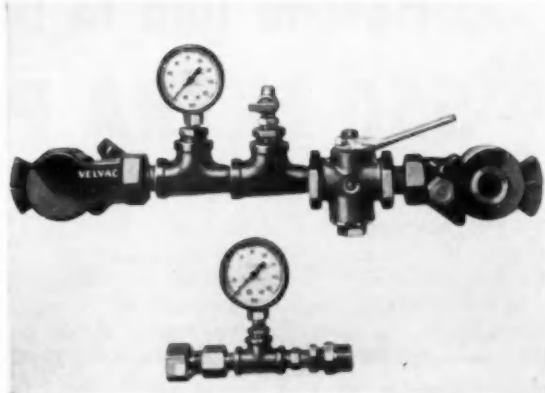
#### P5. Air Spring

Youngstown Steel Car Corp., Niles, Ohio, is now marketing an air spring for trailers. It incorporates an automatic compensating system which maintains a constant axle-to-trailer floor height regardless of load or road conditions and is designed to reduce the cost of running-gear maintenance.



#### P6. Air Test Gage

Velvac, Inc., Milwaukee, Wis., is now marketing an air test gage set to test air brakes for general performance and for ICC compliance. The set consists of a pair of glad hands with a shut-off cock, drain cock and air pressure gage, to be mounted between the glad hands of a tractor-trailer either on the emergency or the service side, and a separate gage with fittings to mount in the tractor brake chamber.



#### P7. Utility Lamp

Moffatt Products, Inc., Minneapolis, Minn., is now marketing a new type of utility lamp. The lamp is designed to be coupled to a special radiator cap which is then mounted in place of the regular cap. A 24 in. arm can then be flexed to any position. According to the manufacturer, the shade within a shade construction of the lamp affords a cool outer shade, eliminating the possibility of burns. Extra brackets are available for mounting in other positions. The lamp can be mounted on a creeper to afford under-the-car lighting.

(TURN TO PAGE 250, PLEASE)





## How to turn 18 Dayton Thorobreds into \$550 EXTRA PAYLOAD PROFIT

### HERE'S HOW DAYTON TRUCK TIRES PAY OFF FOR YOU!

They're stronger, *yet lighter* — convert dead-weight into extra payload. A rig equipped with Dayton Thorobreds can haul 241.2 lbs. extra payload every trip. If your rig averages 80 thousand miles yearly, this additional payload — at 5.7¢ per ton mile—will earn \$550 extra for you every year.†

How does Dayton save you so much weight for extra payload? Tremendously strong Super Cordura Construction permits elimination of excess, heavy bulk. With full 12-Ply Rating, 8-Ply Dayton Tires save an average of 13.4 lbs. per tire — even more with new Dayton Tubeless Tires. (See Chart following.)

You *save money*, too, with Dayton Thorobreds. They give more miles on original tread and take more recaps. Best of all Dayton gives you these premium tire advantages at *regular* tire prices.

Make the most of new vehicles — have them factory equipped with Dayton Thorobreds. And call your Dayton Dealer today or write for the FREE, illustrated booklet "Increase Your Profits 2 Ways." It tells how and why you can make more money when your fleet rolls on Dayton Thorobred Tires. The Dayton Rubber Co., Tire Division, Dayton 1, Ohio.

### EXTRA PAYLOAD PROFIT

Type and Size	Dayton Thorobred Highway Extra Mileage S Rib Super Cordura	Average Other Brands, Rayon	Extra Payload Per Unit*	Extra Payload Per 100 Unit Fleet
Tube-type 10-00-20	115.3 lb.	128.7 lb.	241.2 lb.	24,120 lb.
Tubeless 11-22.5	108.3 lb.	118.3 lb.	180 lb.	18,000 lb.

†Based on statistics of a leading trucking publication.  
\*Based upon a typical 18 wheel tandem tractor-trailer.



A Complete Line of Truck and Passenger Car Tires in Nylon, Super Cordura and Rayon

© D. R. 1957



# Dayton Thorobred Tires





aluminum



steel

## biggest line of truck bodies anywhere!

### earn now with delivery now!

Waiting for truck bodies costs you money every minute. Don't wait—put your chassis to work in a matter of hours with immediately available Fruehauf bodies. Choose from the world's largest selection of low-cost, low-upkeep units.

**All-aluminum** Cargo★Star comes with a choice of beaded panels or exterior posts . . . and an unlimited variety of options.

**All-steel** "Unit-Built" gives rugged service . . . is available in all styles and lengths.

**All-steel** WorkSaver, with 8 sliding doors, means faster deliveries . . . increased sales.

See your Fruehauf Branch for immediate delivery, immediate hauling profits.



worksaver

**FRUEHAUF**  
*Truck Bodies*

**FRUEHAUF**  
First Name In Truck Bodies  
For 10 Years!

Truck Body Division

**FRUEHAUF TRAILER COMPANY**

10941 Harper Avenue • Detroit 32, Michigan

✓ SEND FREE FRUEHAUF TRUCK BODY LITERATURE AT ONCE

☐ Aluminum

☐ Steel

☐ WorkSaver

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

## New Product Descriptions

Continued from Page 247

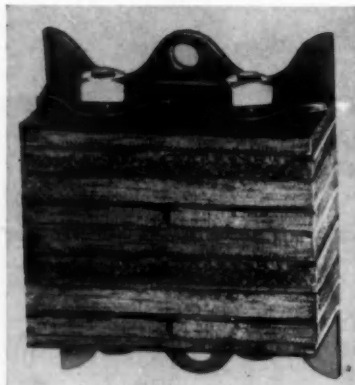


### P8. Point-Gap Wrench

C. E. Niehoff & Co., Chicago, has introduced a point-gap wrench for setting cam-angle on all late trucks using the new type Delco-Remy distributor. The hex wrench fits into the adjusting screw of point set, and, according to the manufacturer, permits quick, easy adjustment while the motor is running. The tool shaft may be bent in any direction. The wrench is cadmium-plated with a plastic shock-proof handle to insure long life.

### P9. Rubber Bumpers

Bumpers, Inc., Cleveland, Ohio, is now marketing rubber-coated fabric truck bumpers designed for mounting anywhere on a truck body to prevent damage to trucks, buildings and loads. According to the manufacturer, the bumpers are constructed to permit reversing the fabric so that the life of the bumper can be doubled. They are available in three styles, specifically designed for truck bed platforms and ICC frames.



### P10. Mobile Radio

Seeley Electronics, Los Angeles, Cal., introduces a new fixed frequency VHF mobile FM receiver. This receiver is a crystal-controlled, fixed-frequency mobile receiver which will operate on either 6 or 12 volts. It can be operated directly from the regular auto radio antenna without affecting the operation of the auto radio. An effective squelch circuit, adjustable from the front panel, is included for quieting of the receiver between calls.

### P11. Hydraulic Crane

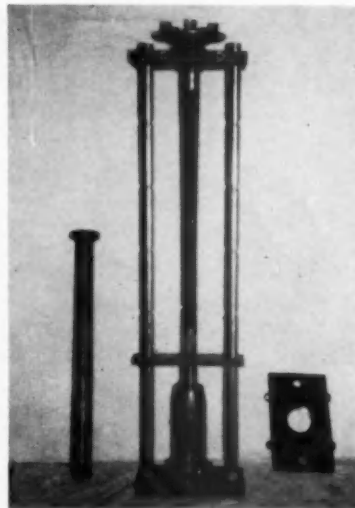
Cam Tool Co., San Francisco, Cal., has introduced a hydraulically operated truck crane with capacity up to 1000 lb. The crane stands 4 ft high,



weighs 110 lb and features a boom which can be extended to an overhang of 4 ft and which can be locked in several telescoped positions. Loads can be lifted vertically almost 8 ft from the truck bed, and a hairline release allows for safe, easy lowering.

### P12. Air Conditioner

Kool Engineering Corp., Chicago, is now marketing a "Install-it-yourself" automobile air conditioner. It will fit most '51 to '57 trucks, automobiles, station wagons and taxi-cabs. All parts are included (even the Freon gas). Rubber hose connections are used throughout. Installation time is three to four hours. Compressor and other parts mount under hood.



### P13. Bench Press

Pollard & Sons Manufacturing Co., Stockton, Cal., has developed a bench press for removing and replacing rear axle bearings. The press securely holds the axle with the bearing, then the axle is pushed up by hydraulic jack out of the bearing. This press operates between the bearing and the retainer plate, thereby preventing both bearing and axle from being damaged. Adapters are available for removing and replacing press-fit piston pins. The press occupies a floor space of 6 in. x 10 in. and stands at a height of 42 in. It has the capacity of withstanding up to a 20-ton hydraulic jack.

### P14. Drum Warmers

Harold L. Palmer Co., Detroit, announces a new optional feature on its 55 and 30 gal drum warmers. An extra opening near the bottom makes it possible to use the bung hole in the



(TURN TO PAGE 254, PLEASE)



# QUICK

WITHOUT the remedy readily at hand, the failure of a hydraulic hose line immediately sets up a costly chain reaction. With varying degrees, this is true not only in construction but in all operations utilizing the many recognized advantages of hydraulic power.

Fortunately, today's engineering advancements have reduced the time loss resulting from such emergencies to a matter of minutes. For example, with Weatherhead quick detachable, reusable and clamp-type hose ends, dependable on-the-job repairs can be made promptly. To further facilitate quick action, Weatherhead coast-to-coast distributors maintain adequate stocks of Weatherhead hose and hose ends to assure you of nearby, dependable service.



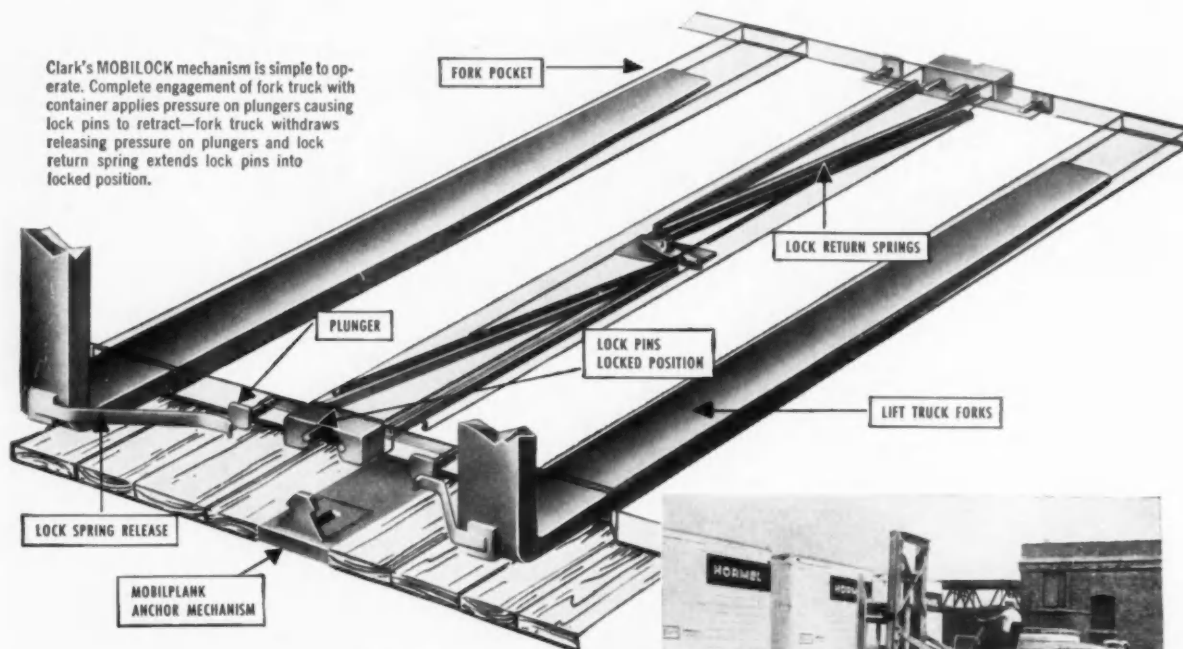
**WEATHERHEAD**

FIRST IN HYDRAULIC CONNECTIONS

Brass and Steel Tube Fittings  
Hose, Ends and Hose Assemblies

THE WEATHERHEAD CO., FORT WAYNE DIVISION  
Dept. C-6, 128 West Washington Blvd., Fort Wayne, Indiana  
In Canada: The Weatherhead Co., Ltd., St. Thomas, Ontario

# CLARK Mobillock® and Mobilplank®-locking devices-anchor 35,000 lb. load to any carrier . . . AUTOMATICALLY!



The job of loading or unloading trucks or rail cars is NOW a job measured in seconds. Giant-sized, 35,000 lb. loads are handled in a van type container . . . and the entire job is done by one man.

## It's as easy as this:

A loaded container is handled by a Clark fork truck and is placed on rail flat car or truck bed equipped with a Clark MOBILPLANK anchor device. Insert forks—container is automatically unlocked; remove forks—container is automatically locked. At destination the load is removed as easily.

The MOBILLOCK and MOBILPLANK devices have been tested and proved with over 35,000 lb. loads and up to 40 g impacts! They are simple in construction, built for rugged duty . . . need no maintenance. They self-align and properly seat the container; are adaptable for new or existing equipment, and are interchangeable between carriers. They are low in cost. It is the *only* completely automatic locking system for large containers that lends itself to *standardization* for all mediums of transportation.

For complete details write or wire.

**CLARK®  
EQUIPMENT**

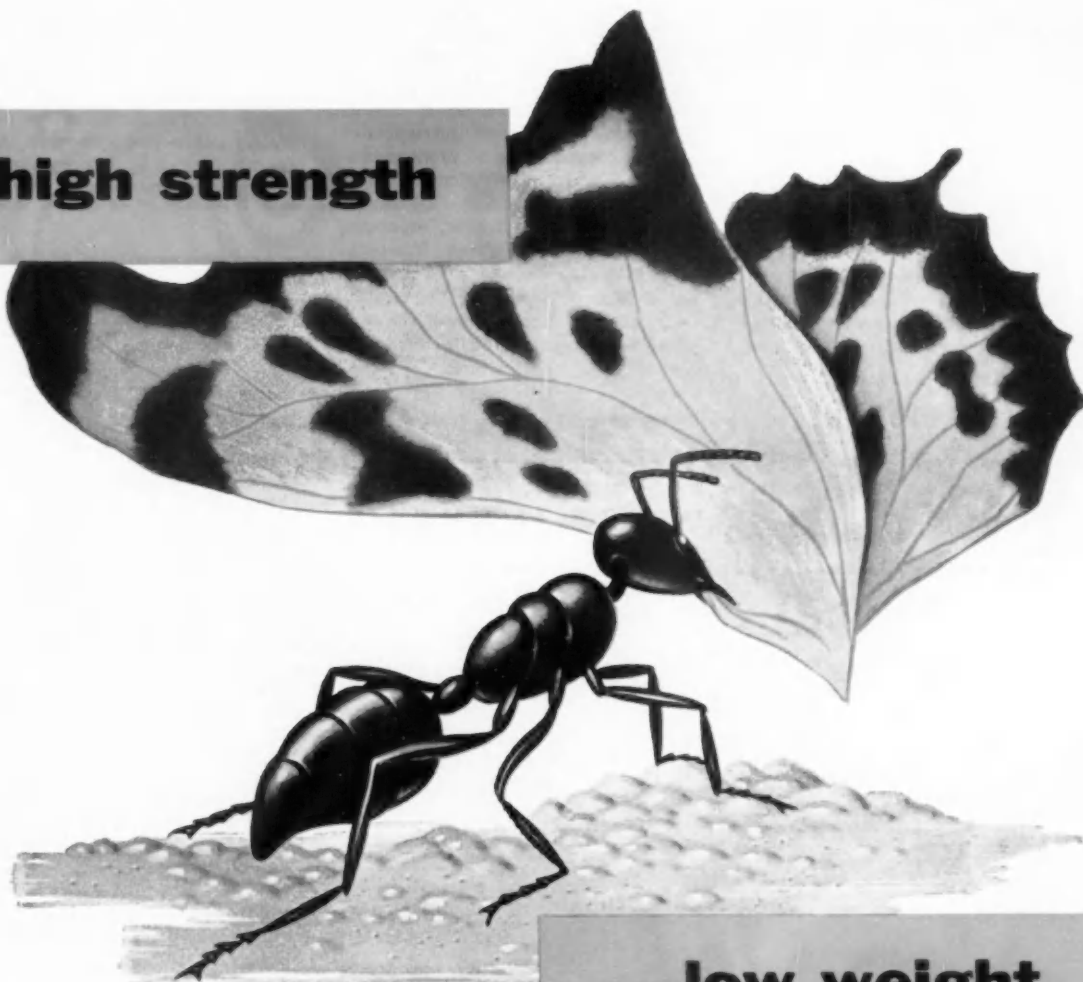
Industrial Truck Division  
MOBILVAN System  
Trademark of  
**CLARK EQUIPMENT COMPANY**  
Battle Creek 185, Michigan



Spector Freight System, Rock Island R.R., Hormel—These users have proved the versatility, the value of Clark's MOBILLOCK and MOBILPLANK locking devices for freight handling. Ask about their experiences.



**high strength**



**...low weight**

Of all working insects, the ant is stronger per unit of weight. And Parish Pressed Steel Division of Dana Corporation, a leading manufacturer of automotive chassis and frames, uses A. W. Dynalloy steel for the same reason . . . high strength—low weight.

There are other reasons, of course. A. W. Dynalloy is

- . . . easy to weld
- . . . easy to form
- . . . resistant to corrosion

As with Parish Pressed Steel, A. W. Dynalloy can help you get more value per dollar spent for your product. Send for our A. W. Dynalloy booklet which gives complete information. Write Marketing Division, Dept. DY-S91.



**A. W. DYNALLOY**

**ALAN WOOD STEEL COMPANY**

*steelmasters for more than a century and a quarter* CONSHOHOCKEN, PA.

DISTRICT OFFICES AND REPRESENTATIVES: Philadelphia • New York • Los Angeles • Atlanta • Boston • Buffalo • Cincinnati • Cleveland • Detroit • Houston • Pittsburgh • Richmond • St. Paul • San Francisco • Seattle • Montreal & Toronto, Canada—A.C. Leslie & Co., Limited

COMMERCIAL CAR JOURNAL, June, 1957

## New Products

Continued from Page 250

lower third of the drum by screwing an ordinary pipe nipple into the bung opening and attaching any simple valve for regulating the flow. The opening is 8 in. high by 3½ in. wide. According to the manufacturer, this feature eliminates possible spillage from pumping through the top bung.

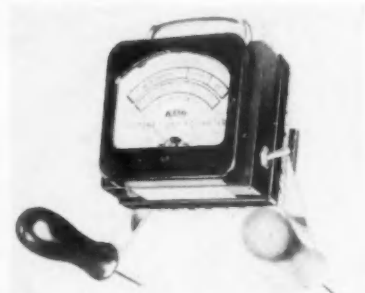
## P15. Reefer System

Liquid Carbonic Corp., Chicago, announces a new development in over-the-road refrigeration. It is a fully automatic, semi-trailer refrigeration system using dry ice to produce controlled temperatures. Econo-Cold is a bunker-blower system. It mounts in the nose of the trailer, separated from lading by a bulkhead. Temperature control from minus 10° to plus 60° F is accomplished by thermostatically controlled operation of the fans to hold the cold on the forward side

of the bulkhead during the off cycle. It is designed to meet refrigeration requirements uniformly while the ice supply diminishes. Power requirements for the fans are met by the tractor generating system in highway operations and by battery for piggy-backing.

## P16. Battery Analyzer

King Electric Equipment Co., Cleveland, Ohio, now offers a portable load type 6/12 volt battery analyzer for both detached and in-the-vehicle battery testing. The instrument is equipped with testing prods said to be adjustable for spanning the main



posts of vehicle batteries regardless of spread or location. Battery condition is indicated on a 5½ in. expanded scale meter calibrated to read Good-Recharge-Check Each Cell. A secondary scale, expanded to provide approximately ½ in. between each tenth volt, allows for individual cell analysis.

## P17. Water Pumps

Cloyes Gear & Products, Inc., Cleveland, Ohio, has a new line of water pumps. The line includes models for every make of car. According to the

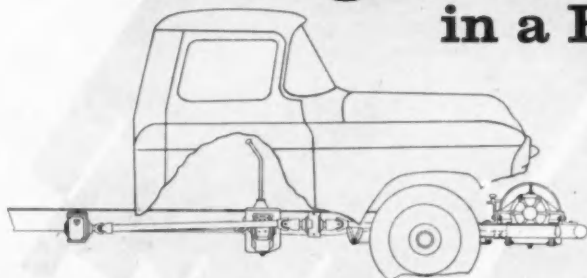


manufacturer these pumps use the same type seal used by original equipment manufacturers, and will deliver trouble-free service equal to original pumps. All pumps are vacuum tested before shipment.

(TURN TO PAGE 258, PLEASE)

# BRADEN TRUCK WINCHES

## Snug as a Bug in a Rug



There is a BRADEN front-end winch designed to fit any make and model of truck.

Notice in the installation drawing how snug the winch fits into place. Every dimension is carefully calculated to assure proper fit without crowding. Simple instructions make it possible to install winch with the minimum of time and effort.

BRADEN Truck Winches are made in capacities from 6,000 to 100,000 pounds. Specify BRADEN Winches . . . and be sure!

WRITE  
FOR  
CATALOG

BRADEN WINCH COMPANY

P. O. Box 547, Broken Arrow, Oklahoma



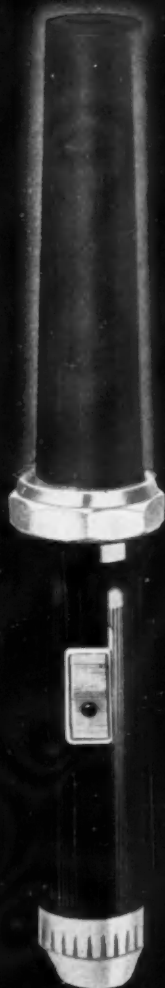
In service around the world

# new!



## Unbreakable Signal Wands at LOWEST PRICES ever offered!

- New unbreakable plastic makes possible this new product at a new low price. Prices start at \$1.05—Flashlight & Wand combination.
- Available on all standard Ray-Q-Vac flashlights.
- Removable end cap for bright beam or warning glow.
- Red or yellow unbreakable polyethylene wands.
- 3 wand sizes—2 inches, 4 inches, and 8 inches.



N22W8



Z22RW4

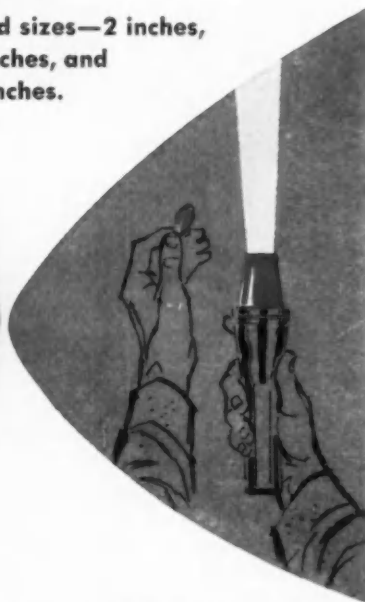


J22RW2

### REGIONAL OFFICES

212 East Washington Ave., Madison 10, Wis.  
1338 Madison Avenue, Memphis 4, Tenn.  
461 Market Street, San Francisco 5, Calif.  
1775 Broadway, New York 19, New York.  
Ray-O-Vac Canada, Ltd., Winnipeg.

**RAY-O-VAC COMPANY  
MADISON 10, WISCONSIN**



**yes!** I want to see a sample. Please send catalog with prices.

NAME \_\_\_\_\_  
COMPANY \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_

Send to DEPT. 206, RAY-O-VAC COMPANY  
MADISON 10, WISCONSIN

# WEAVER

## Super-Giant 40,000-LB. JACK

*...the only hydraulic floor jack over 10 tons capacity!*

**40,000-lb. Capacity**



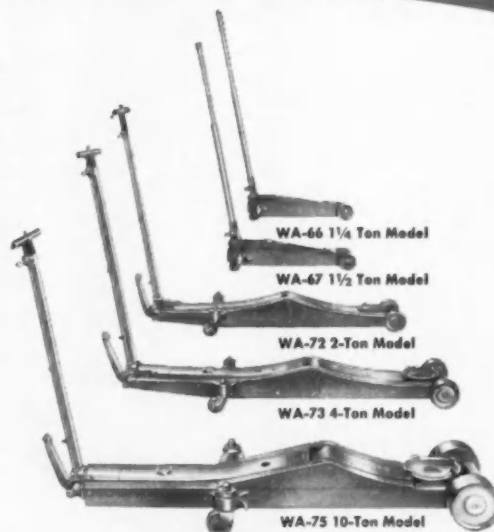
Model WA-85

• Frame High Point . . 10 1/4"	• Length — Frame . . . 68 1/2"
• Saddle Low Point . . . 6 1/2"	• Length — Handle . . 40"
• Saddle High Point . . 25 1/2"	• Length — Extended 108"
• Total Lifting Range . 19"	• Width—Widest Point 24 1/2"

Despite its power-packed 20-ton capacity, the WA-85 Super-Giant Jack is a model of handling ease and operating efficiency. Like all Weaver Lo-Hi-Draulic Jacks, it features the time-saving Quick-Lift Lever introduced by Weaver. This Lever, located at base of handle, can be hand operated to speed travel of saddle to load or can be foot operated to lift light loads in cramped quarters. Spring-balanced handle operates on any phase of stroke . . . stays in vertical position when not in use.

The Weaver Super-Giant Jack rolls smoothly on big roller bearing wheels and casters. Long, low slung frame with triple front wheels reaches under extreme overhangs. Saddle lifts to 25 1/2". Convenient safety lock prevents accidental lowering of load. Safety valve prevents over-loading.

1 1/4, 1 1/2, 2, 4 and 10 ton Weaver Lo-Hi-Draulic Jacks are also available. Consult your Weaver Jobber today or write us for Bulletin CCJ-461.



# WEAVER

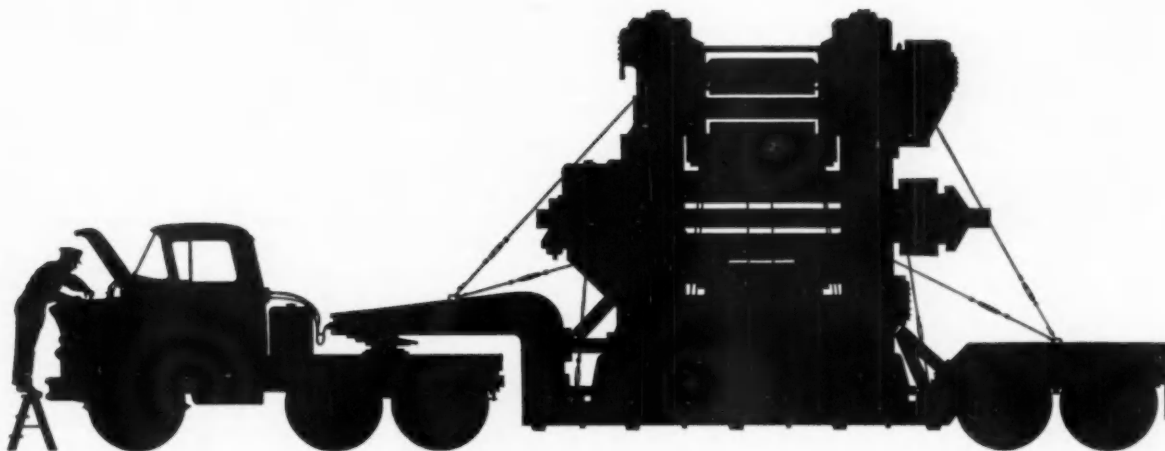
WEAVER MANUFACTURING CO., SPRINGFIELD, ILL., U.S.A.

## SERVICE SHOP EQUIPMENT

Complete line includes: Twin Post Lifts . . . Triple Post Lifts . . . Single Post Roll-on, Free-Wheel and Frame Type Lifts . . . Unit Lifts . . . Bumper Lift . . . Car Washers . . . Wheel Alignment Equipment . . . Headlight Testers . . . Brake Testers . . . Wheel Balancing Equipment . . . Jacks . . . Wheel Dollies . . . and Air Compressors.



## BIG TRUCK, small profit



It would be difficult to figure just how much a dead battery really costs you. So don't take a chance, get a **Delco Extra-Duty** —the battery that lives up to its warranty!

Delayed deliveries, angry customers, overtime—all have to be figured into the cost of one dead battery. But you can curtail this extra expense with a Delco—the battery with the General Motors warranty that's good all over the United States, and in Canada, too.

The wonderful thing about this warranty is that General Motors wrote it to fit the battery's performance, after the battery had proved itself. By "proved" we mean the way it stood up to rough treatment at the General Motors Proving Ground. Building a

battery of this caliber required the combined research and engineering skills of Delco and General Motors. But the result was well worth the effort—because this Delco Extra-Duty battery gives you the lowest possible cost per mile of operation.

Wet or dry charge, Delco Extra-Duty batteries could mean the difference between profit and loss in your fleet operation, so always specify Delco—America's No. 1 battery.



available everywhere through  
**Delco Battery  
Distributors**



LISTEN TO . . .  
The Lowell Thomas Newscast on CBS Radio Network—See local listings for time and station.

## New Products

Continued from Page 254

### P18. Wheel Dollies

Alexander-Tagg Industries, Inc., Hatboro, Pa., is now marketing two types of wheel dollies, that will work on any surface. Either unit will permit one man to remove or replace heavy 6.50 to 12.00 tires. Model No.

610 is for use on hard surfaces and the all-purpose Model No. 612 can be used on any surface. The Model No. 612 has 40 in. of trolley travel permitting plenty of room for a man to do a brake or wheel bearing job without removing wheels from the dolly.

### P19. Mobile Telephone

Allen B. Du Mont Laboratories, Inc., Clifton, N. J., has available a completely automatic "dial-direct" mobile two-way radiophone system.

This system consists of a dial radiophone in a vehicle, employing a two-way radio system as a carrier to the local telephone company installation. Also, an automatic transmitter-receiver base station is interconnected with the local telephone system. Calls can also be made from vehicle to vehicle. Only two telephone lines are required to interconnect the base station equipment with the telephone company's central office. One line is utilized for calls from telephone to radio, the other from radio to telephone. Calls are made from the vehicle by simply dialing a number within a local telephone system; also, anyone within that system can call the vehicle in the same manner as when making a house-to-house call.

**ACCURACY HERE...**  
*can save costly engine damage!*

INSTALL STEWART-WARNER  
**Universal Mounting Gauges**



**for trucks, busses, cars!**

- Rugged vibration-proof mechanism!
- Dust-tight, water-proof, corrosion-resistant construction!
- Chrome bezel rolled over rubber gasket!
- Silicone damped pointers—no bounce or flutter!
- Ample safety factor—will not take a "set" when overloaded!

There is a famous-quality Stewart-Warner instrument or gauge for every automotive need—to give dependable warning indications *before* oil drains away, *before* coolant boils off or fuel runs out... *before* countless other engine troubles cause costly damage.

See your dealer for complete details, or write:

**STEWART-WARNER**  
Instrument Division

Dept. UU-67, 1840 Diversey Parkway, Chicago 14, Illinois



### P20. Bearing Tool

Dura-Bond Engine Parts Co., Palo Alto, Cal., now offers a camshaft bearing tool for insertion and removal of all size cam bearings. The tool consists of three expanding mandrels and



washers, two different size driving bars, and two tapered plugs. According to the manufacturer, the expanding mandrels do the work of more than 90 separate driving plugs.

### P21. Torque Wrench

Micro-Nut Co., Los Angeles, Cal., has introduced a torque wrench for adjusting automotive wheel bearings.



The low torque readings are provided by a dial plate showing 5 ft pounds torque for taper roller type and 7 ft pounds torque for ball-type passenger car wheel bearings.

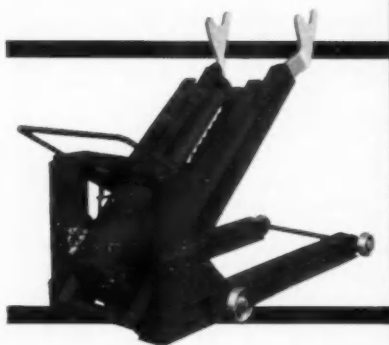
### P22. Engine Oiler

Pre-Matic Mfg. Co., Portland, Ore., is now marketing a pre-oiling device.  
(TURN TO PAGE 260, PLEASE)

# BAY-LIFT® PUTS NEW LIFE

## IN YOUR MAINTENANCE SHOP . . .

## TO IMPROVE YOUR FLEET'S *POSITION-FOR-PROFIT*



To learn how Bay-Lift can improve your **POSITION-FOR-PROFIT** write for complete details.

# BAY LIFT®

You'll find the Bay Portable Air Lift just what the Doctor ordered for speedier, more efficient servicing and repair of fleet equipment. With Bay . . . trucks, trailers, cabs and cars in the shop are back OUT on the road faster, piling up money-making miles.

With Bay-Lift there is no lost time or effort in getting fleet equipment up for servicing. With the vehicle up, the air hose can be disconnected and used with other tools. Trucks and trailers that are serviced quickly don't occupy valuable garage space. Bay-Lift is more efficient because the mechanic can conveniently look AT and not fatiguingly UP to his job. Fact is, you'll find the Bay-Lift the same as another mechanic in the shop . . . turning out 3 to 5 extra jobs a day. What's more Bay-Lift costs less than the pay a good mechanic earns in a month. From the first day you start using Bay in your shop it starts earning its own keep . . . and much more.

# BAY LIFT®

**DIVISION OF LIFE TIME PRODUCTS CORP.**  
P. O. BOX 537-C6, YOUNGSTOWN, OHIO  
Bay Overseas Division, 276 West 43rd St., New York 36, N.Y.  
Cable Lopreh, New York



BAY-LIFT, Model P-3000  
and HEAVY DUTY TRUCK  
Model T-5000



BAY ROCKER-HEAD STANDS  
Model B



BAY BUMPER JACK  
AIR DOES ALL THE WORK  
Model H-3000  
with HINGED LIFTING BAR

## New Products

Continued from Page 258

This unit insures lubrication by injecting engine oil under pressure into the oil system before the engine is started. About the size of an automotive oil filter, the oiler is mounted close to the engine and is connected to the engine's oil gallery by a single length of hose. One 14 gage wire

connects the oiler's activating solenoid to the ignition switch or to the switch side of the coil on battery ignition systems. Once installed and connected the oiler is fully automatic in operation.

### P23. Body Repair Plastic

Ren Plastics, Inc., Lansing, Mich., announces a new epoxy plastic paste for automotive repairs. The manufacturer states that this plastic can be used for filling in body dents, repairing rotted out rocker panels or

any other confined areas of the body. Larger holes can first be filled with steel wool, to obtain backing. It spreads like putty, hardens like metal and holds its bond. It feathers out and can be sawed, filled or drilled without pulling from the repair. It is resistant to acids, alkalis, greases, salt air and common solvents. It will not rust, rot, corrode or dry out and is unaffected by heat or cold.

### P24. Electric Tailgate

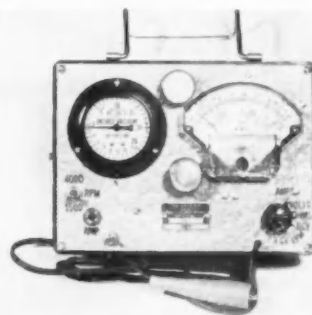
Mid West Body & Manufacturing, Paris, Ill., is now marketing an electric elevating tailgate for ½ and 1-ton trucks. The motor is reversible



and has a built-in brake to prevent coasting. The heavy duty push button control has a built in lock for security. The all steel ramp type unit weighs only 225 lb and is designed to save rear end over balance.

### P25. Instrument Set

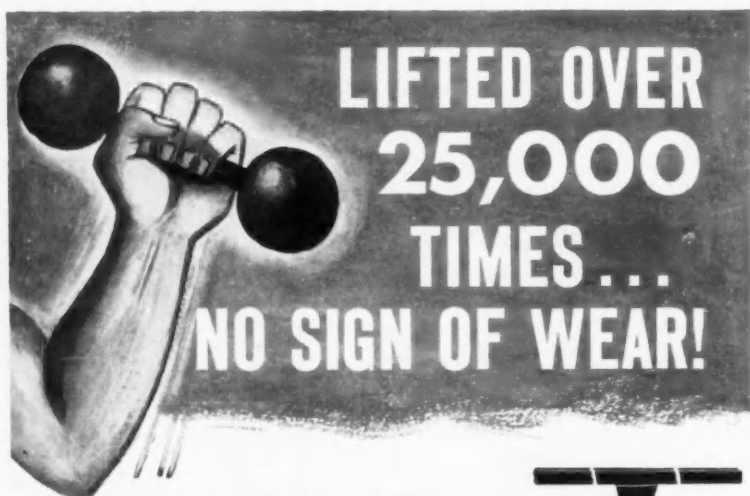
Westberg Manufacturing Co., Napa, Cal., is now marketing a test set which includes five test instruments, a



vacuum gage, a 1500 and 4000 rpm tachometer, an ammeter registering from 4 to 40 amp, a volt-meter registering from 0 to 16 volts, and an ohmmeter which registers from 50 to 50,000 ohms.

### P26. Bucket Pump

Alemite Division, Stewart-Warner Corp., Chicago, is now marketing a (TURN TO PAGE 264, PLEASE)



... Proves outstanding durability of **HANSEN Window Regulators for Commercial Bodies**

An automatic testing device operating a HANSEN Regulator lifted an 18 lb. window over 25,000 times. Regulator showed no wear.

Here is conclusive proof of the SUPERIOR DESIGN and RUGGED CONSTRUCTION of HANSEN Window Regulators. It is matched by actual road-tested experience by thousands of HANSEN-equipped Commercial Vehicles. Discriminating Body Builders can specify nothing finer than HANSEN.

... a few HANSEN exclusive features:

- Glass lifts in straight line—no catching or jamming.
- High grade steel construction insures strength and durability.
- Smooth 4-turn operation quickly raises and lowers window.
- Window automatically locks at any point.

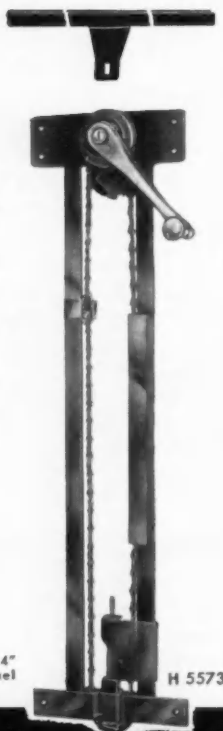


Ask for the complete HANSEN Catalog.

No. 87 Regulator Available in lifts from 14" to 30"—Glass Channel included.

**A. L. HANSEN MFG. CO.**

5047 RAVENSWOOD AVE., CHICAGO 40, ILL.



H 5573



# A POWERFUL LOT

You can rest assured that you have the most dependable safety equipment in the world when you are equipped with the Miro-Flex family of mirrors, reflectors, lamps, and flares. They are the favorites of everyone — from operators of "big boys" to pick-ups, because they are quality built to take the roughest treatment.

Look over the Miro-Flex line...the Miro-Flare, the original reflector flare...the mirrors which are stocked with interchangeable arms, housings, brackets, and heads, so you can have a custom-built mirror on the spot...and the new three-way combination tail light, stop and turn signals.

You will *PLAINLY SEE* why so many choose Miro-Flex!

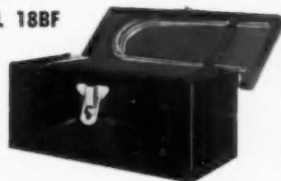
*of SAFETY by*  
**MIRO-FLEX**



**MODEL 20  
MIRO-FLARE**

24 candlepower with visibility for over half a mile.

**MODEL 18BF**



Set of three Model 18 economy Miro-Flares in box with flags and staffs.



**No. 3643  
MIRROR ASSEMBLY**

6½" rubber-rimmed mirror for panel trucks.



**No. 6903TA  
MIRROR  
ASSEMBLY**

West-Coast-Type Mirror for pick-up trucks.



**No. 9908M  
MIRROR  
ASSEMBLY**

Finest quality West-Coast-Type Mirror for heavy-duty trucks.

**No. 10763-200  
MIRROR ASSEMBLY**

New 7" x 10" heavy-duty, rubber-rimmed mirror.



**No. 432  
CLASS  
"A"  
DIREC-  
TIONAL  
SIGNAL**

combination tail light, stop and turn signal.



**No. 428  
TAIL AND  
STOP LIGHT**



**No. 403**

Armored clearance or marker lamp.

**No. 402-W  
CLEARANCE LAMPS**

Available with spring, web or sprint steel mounting.



**No. 418 IDENTIFICATION LAMP**

Three-in-line, double-faced in red, amber, green, or clear.



**No. 409  
STREAMLINED MARKER OR  
CLEARANCE LAMP**

**THE MIRO-FLEX CO. INC.**  
1824 EAST SECOND ST.  
WICHITA 7, KANSAS

Please send me a complete catalog showing the Miro-Flex line of safety equipment.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

TOWN \_\_\_\_\_ STATE \_\_\_\_\_



THE MOST IMITATED PISTON IN THE WORLD...

# THE FIRST WITH THE MOST

## DUALOY PISTONS HAVE

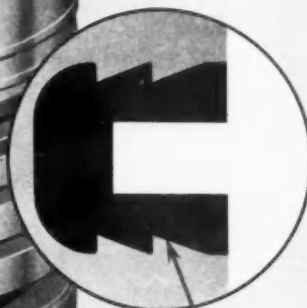
More experience in more applications with  
More miles of proven performance in  
More makes and more types of engines in  
More fleet operations...

than any other

Bi-Metallic Heavy Duty Piston

## DUALOY HAS ESTABLISHED THESE NEW INDUSTRY STANDARDS

- 1 Lower operating costs
- 2 Longer Piston life
- 3 Less down time
- 4 Positive top ring groove protection



NIRESIST IRON  
ARMORED TOP RING  
BAND INTEGRALLY CAST  
AND CHEMICALLY BONDED  
TO ALUMINUM PISTON

# DUALOY

THE  BI-METALLIC MOLECULAR BONDED PISTON

Manufactured by

**UNITED ENGINE & MACHINE COMPANY**

310 PREDA STREET • SAN LEANDRO, CALIFORNIA

## SILV-O-LITE

BETTER PISTONS SINCE 1922

## DUALOY

### FACTORY WAREHOUSE STOCKS

CAMBRIDGE, MASS.—ASSOCIATED PARTS CORPORATION, 733 Concord Ave.; L. I. CITY, N. Y.—EASTERN WAREHOUSE SERVICE, Inc., 35-13, 37th Ave.; CHARLOTTE, N. C.—L. S. SLOOP, 1727 East 7th St.; ATLANTA, GA.—JOBBER'S SERVICE, 523 Simpson Street, N.W.; CHICAGO, ILL.—AUTOMOTIVE WAREHOUSING, 2645 South Wabash Ave.; ST. LOUIS, MO.—AUTOMOTIVE WAREHOUSING CO., 3150 Locust Blvd.; DALLAS, TEX.—UNITED WAREHOUSES, INC., 9012 Sovereign Row; SAN ANTONIO, TEX.—SAN ANTONIO PARTS WAREHOUSE, 408 South Flores St.; DENVER, COLO.—WAREHOUSE SERVICE CO., 1138 - 8th St.; PHOENIX, ARIZ.—AUTOMOTIVE WAREHOUSING SERVICE, 620 W. Van Buren St.; LOS ANGELES, CALIF.—GENE'S DISTRIBUTING CO., 2720 S. San Pedro St.; PORTLAND, ORE.—AUTOMOTIVE DISTRIBUTING CO., 351 N. W. 12th Ave.; SEATTLE, WASH.—EVERGREEN WAREHOUSE DIST., INC., 620 East Pike St.

Another **SMITHway** first!

# NEW integral-axle "5<sup>th</sup> wheel" pull trailer suspension!



## Exclusive **SMITHway** design features:

Simplified integral unit construction — stabilizer assembly (fastens to trailer subframe), and axle-frame assembly (houses shock-absorbing cushion rings, and serves as front axle).

Five synthetic rubber cushion rings in the axle-frame assembly, bonded

to steel divider plates, carry loads and absorb shocks.

All lateral and longitudinal shocks are absorbed by a synthetic rubber jacket between stabilizer inner sleeve and axle-frame outer sleeve. Jacket is permanently bonded to inner sleeve. A center pin links the two

assemblies together and provides the axis for turning. A small synthetic rubber cushion at the top of center pin absorbs rebound shocks.

All moving shock-absorbing parts are oil lubricated. Approximate weight: 550 pounds, exclusive of brakes and hinges.

## Lighter, stronger, more efficient. Boosts ton-mile profits... improves tandem-trailer travel

Exhaustively tested for more than a year! This is America's finest tandem trailer front suspension. Vastly superior on all types of trailers, under different loads, at different speeds and road conditions.

• **450 to 500 lbs. lighter** than conventional leaf-spring suspension gear! Exclusive all-welded *integral* construction adds strength as it saves weight. Means more payload pounds... more ton-mile profits.

• **Finest riding qualities** — Multiple cushion-ring shock-absorber design minimizes jolting of tractor units. **SMITHway**-equipped tandems track better, handle easier — free of whip and sway.

• **Lower upkeep and maintenance** than any other "5th wheel." **SMITHway** design has no costly roller bearings to fail... no leaf springs, brackets, U-bolts to work loose from axles to shift and cause misalignment.

• **Easy to install** — Merely bolt stabilizer flange to trailer subframe... nothing else to tighten, adjust or align.

Contact your trailer manufacturer for full details on fleet conversion and new installation.



### GET CATALOG OF COMPLETE FACTS NOW!

Just off the press — more details on new **SMITHway** Integral-axle "5th wheel" tandem trailer suspension. For your copy, catalog MO-100, see your trailer manufacturer, or write direct:

## PROFIT WITH **SMITHway** ON THE HIGHWAY

COMMERCIAL CAR JOURNAL, June, 1957

Through research ... a better way

# A.O. Smith

CORPORATION

AUTOMOTIVE PRODUCTS

5715 Smithway Street, Los Angeles 22, California  
3533 N. 27th Street, Milwaukee 1, Wisconsin

International Division: Milwaukee 1, Wisconsin

## New Products

Continued from Page 260

new portable bucket pump featuring a patented "Adjusto Lever" which makes it easy to pump either oil or grease in the coldest weather and at pressures of 2500 to 5000 lb. Available in seven models for all types of lube fittings, the bucket pump features a gasket sealed cover eliminating dirt, moisture from the lubri-

cant and spillage on the job. A built-in primer insures constant delivery and new foot valve assures full pressure. Capacity is 35 lb.

### P27. Hose Equipment

Alemite Division, Stewart-Warner Corp., Chicago, has introduced a complete line of medium-high and high pressure hydraulic hose and hose couplings which feature a "double-wedge grip," said to eliminate need for skiving rubber covered wire braid

hose. The couplings, which may be used over and over again, bite right through the rubber cover, grip solidly on either single or double wire braid hose. The hose has an operating temperature range of minus 40° to plus 275° F, and a burst range from 1400 to 18,000 psi.

### P28. Pin Press

Owatonna Tool Co., Owatonna, Minn., has introduced a track pin press for small crawler tractors which is designed to press and replace track pins and remove and replace bushings without removal of the track shoes. A 35-ton two-way

## OTC HYDRAULIC TOOLS

PUT MAINTENANCE AND REPAIR  
SHOP AND FIELD - ON A PAYING BASIS

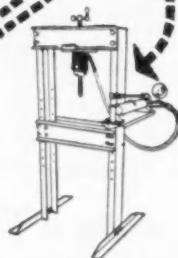
Here's a hard-working OTC tool—part of the world's most complete line of hydraulic tools... this rear-axle-tube removing and installing set lets one man do the entire job in a fraction of the time ordinarily required—eliminates costly parts breakage or distortion. Powered by OTC Power-Twin ram and pump. Write for bulletin S-24.



Use same OTC ram and pump—plus the OTC cylinder-sleeve puller and installer to pull, install wet or dry sleeves without removing cylinder-head studs. Cuts resleeving time by 75 per cent or more on trucks, tractors, buses, stationary engines.



The same OTC ram and pump—plus accessories—removes bearings, gears, pulleys, sheaves, bushings. Portable—use in shop or field. Eliminates hammers, chisels, broken parts. Available in jaw-type Grip-o-matic or push-pullers with 2-way, 3-way or combination heads.



The same OTC ram and pump plus an OTC shop press handles nearly all bending, straightening work in the shop—speeds pulling and installing on hundreds of jobs. Ram easy to remove for use with other accessories. Presses for 17½- to 100-ton rams.



single-cylinder ram does the pushing. Adaptors for each operation snap into the ram head or frame head to make the changes rapidly. To facilitate handling of the track, roller conveyor five-foot sections may be added. The press requires a floor space of 16 x 40 in. without the conveyors. It stands approximately 32½ in. high and is available with hand, gas or electrical-operated pumps. A finger-tip valve is furnished for control and a hydraulic pressure gage is mounted at eye level.

### P29. Mpg Calculator

Aerolab Supply Co., Hyattsville, Md., is now marketing a computer for measuring miles per gallon of gaso-



line. When the gasoline tank is filled, the computer's speedometer reading is to be set at the bottom of the dial. (TURN TO PAGE 268, PLEASE)



See your jobber or write us for complete information. Send for new manual—FREE!

**OWATONNA TOOL COMPANY**

341 Cedar Street • Owatonna, Minnesota



FLASH .... FLEET OPERATORS ARE PAYING A PREMIUM

OF ONE DOLLAR PER POUND FOR REDUCED TRUCK WEIGHT

Reduce  
Empty Weight

Eliminate  
Dead Weight

~~REDUCE~~  
~~INCREASE~~  
YOUR TRUCK'S

Help Keep  
Within Legal  
Gross Weight

~~PAYLOAD~~  
~~WEIGHT~~

Add to  
Your Truck's Ton-Mile  
Capacity

A truck manufacturer says big fleet operators are offering \$1.00 per pound for reduced truck weight — and that the use of lighter metals has reduced weights down to their lowest achievement point — within acceptable standards of life and wear. Because MECHANICS Roller Bearing UNIVERSAL JOINTS truck PROPELLER SHAFT is pounds lighter than other joints and shafts of comparable torque capacity — you can reduce the weight of

your truck by specifying MECHANICS. Let MECHANICS engineers help reduce the weight and increase the payload capacity of your truck — and give it a competitive weight advantage — with a MECHANICS Roller Bearing UNIVERSAL JOINTS truck PROPELLER SHAFT application.

**MECHANICS UNIVERSAL JOINT DIVISION**

Borg-Warner • 2034 Harrison Avenue, Rockford, Illinois

*With* **34%** *Lighter*

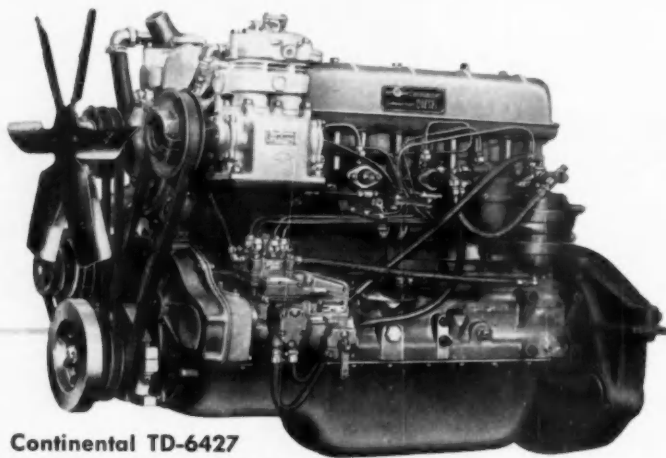
**M E C H A N I C S**

*Roller Bearing* **BW**

**UNIVERSAL JOINTS**

**For Trucks • Busses • Industrial Equipment**

# Cushioned<sup>®</sup> Power IS THRIFTY POWER



Continental TD-6427  
Cushioned Power Diesel

## TRANSPORTATION DIESEL ENGINES

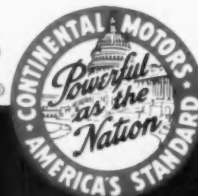
Model	Cyl.	Bore	Stroke	Displ.	Bare Engine H.P.
TD6427	6	4 1/16	4 7/8	427	116.0 @ 2400 RPM
RD6572	6	4 3/4	5 1/2	572	172.0 @ 2400 RPM
VD8603	8	4 3/4	4 1/4	603	182.0 @ 2800 RPM
SD6802	6	5 1/16	5 1/2	802	225.0 @ 2200 RPM

## TRANSPORTATION GASOLINE ENGINES

Model	Cyl.	Bore	Stroke	Displ.	Bare Engine H.P.
N4062	4	2 3/8	3 1/2	62	26.3 @ 3500 RPM
Y4069	4	2 1/2	3 1/2	69	28.0 @ 3500 RPM
Y4091	4	2 3/8	3 1/2	91	36.0 @ 3400 RPM
F4124	4	3	4 1/8	124	47.0 @ 3200 RPM
F4140	4	3 1/16	4 1/8	140	52.0 @ 3200 RPM
F4162	4	3 1/16	4 1/8	162	58.0 @ 3200 RPM
F6186	6	3	4 3/8	186	77.0 @ 3500 RPM
F6209	6	3 1/16	4 3/8	209	90.0 @ 3500 RPM
F6226	6	3 1/16	4 3/8	226	98.8 @ 3500 RPM
F6244	6	3 1/16	4 3/8	244	105.0 @ 3750 RPM
M6271	6	3 3/8	4 3/8	271	96.5 @ 3000 RPM
M6290	6	3 3/8	4 3/8	290	108.0 @ 3000 RPM
M6330	6	4	4 3/8	330	125.0 @ 3000 RPM
M6363	6	4	4 13/16	363	146.0 @ 3000 RPM
B6371	6	4 1/8	4 3/8	371	123.5 @ 3000 RPM
B6427	6	4 1/16	4 3/8	427	142.0 @ 3000 RPM
K6271	6	3 3/8	4 3/8	271	114.5 @ 3200 RPM
K6290	6	3 3/8	4 3/8	290	123.0 @ 3200 RPM
K6330	6	4	4 3/8	330	147.0 @ 3200 RPM
K6363	6	4	4 13/16	363	162.0 @ 3200 RPM
T6371	6	4 1/8	4 3/8	371	143.8 @ 3000 RPM
T6427	6	4 1/16	4 3/8	427	170.0 @ 3000 RPM
U6501	6	4 1/2	5 1/4	501	178.0 @ 2600 RPM
R6513	6	4 1/2	5 1/8	513	192.2 @ 2800 RPM
R6572	6	4 3/4	5 1/8	572	220.0 @ 2800 RPM
R6602	6	4 7/8	5 1/8	602	232.0 @ 2800 RPM
S6749	6	5 1/8	5 1/2	749	250.0 @ 2800 RPM
S6820	6	5 1/8	5 1/2	820	275.0 @ 2800 RPM
V8603	8	4 3/4	4 1/4	603	240.0 @ 3200 RPM

A tip from fleet operators who have switched to Continental Diesel: When you're ready to "go Diesel," it pays, in more ways than just initial cost, to go the whole distance and get exclusive Red Seal Cushioned Power. In that way, you obtain fullest measure of ALL the advantages identified with engines of Diesel type. You use less fuel than with conventional Diesels. You have more cargo capacity because you're lugging less engine weight. And the wide interchangeability of parts between Cushioned Power Diesels and companion models in the Red Seal gasoline engine line expedites maintenance and sharply reduces parts cost.

**AUTHORIZED SERVICE**  
and genuine Red Seal parts available from  
coast to coast.



## Continental Motors Corporation

MUSKEGON, MICHIGAN

WORLD'S LEADING INDEPENDENT MANUFACTURER OF INTERNAL COMBUSTION ENGINES, CONTINENTAL MOTORS OPERATES PLANTS IN ATLANTA, DALLAS, DETROIT, MILWAUKEE, MUSKEGON, AND TOLEDO, AND IN ST. THOMAS, ONT., PRODUCING AIR-COOLED AND LIQUID-COOLED ENGINES FOR USE ON LAND, AT SEA AND IN THE AIR.

# "Aeroquip Hose Lines Last For 250,000 Miles on Our Diesel Buses"

REPORTS E. W. GUESS, CAROLINA COACH CO., RALEIGH, N. C.



National Trailways buses operated by Carolina Coach Company.

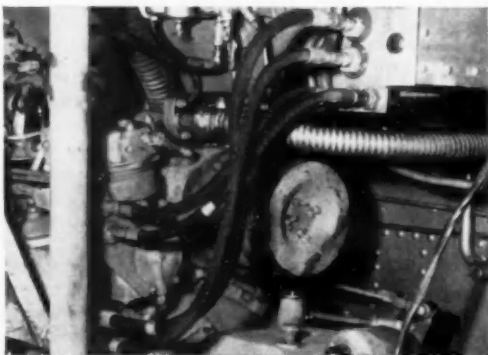


Familiar sight on the eastern seaboard are National Trailways Buses, operated in North Carolina, Maryland and Virginia by Carolina Coach Company.

To keep them rolling on schedule, Aeroquip Hose Lines are used on diesel engines, power steering and air conditioning equipment on 170 Carolina Coaches. Hose lines for conversion and replacement are made up quickly, easily from Aeroquip Bulk Hose and Reusable Fittings.

"We have changed over all of our diesel buses to Aeroquip," says Mr. Guess. "We wouldn't use any other type of hose."

Join the many fleets who are standardizing on Aeroquip Hose Lines for dependable performance and for the money-saving advantages of reusable hose fittings. Call the Aeroquip Distributor listed in your Yellow Page Phone Book, or write us.



Made up quickly from bulk hose and reusable fittings, Aeroquip Hose Lines help reduce downtime when replacements are needed.



Aeroquip Hose Lines on this GM diesel engine give long, dependable service on fuel, air and lube oil applications.

## Aeroquip

**AEROQUIP CORPORATION, JACKSON, MICHIGAN**

IN CANADA: AEROQUIP (CANADA) LTD., TORONTO 10, ONTARIO  
LOCAL REPRESENTATIVES IN PRINCIPAL CITIES IN U.S.A. AND ABROAD • AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

## Test Filters...?



**NEVER AGAIN!**

WHEN YOU REPLACE WITH  
**refilco**  
OIL FILTER CARTRIDGES

**GUARANTEED 5000 MILES**

by WRITTEN FACTORY BOND  
... YOU PAY ONLY for FULL  
5000 MILES of DEPENDABLE  
FILTER PERFORMANCE

## PRETESTED:

to give vital oil purification through 5000 miles of hard engine use... REFILCO's "PREMIUM-PACK" line of heavy duty oil filter cartridges removes microscopic foreign particles and other contaminants, yet does not affect special additives, 3 popular types, CAN, SOCK, MICRON... IN EVERY SIZE... ALL TYPES ENGINES... GAS or DIESEL.

... mail this coupon today ...

REFILL FILTER CO.  
541C Fifteenth Ave.,  
Newark 3, N. J.

☐ Have Representative call

☐ Send information

FIRM

NAME

ADDRESS

CITY & STATE



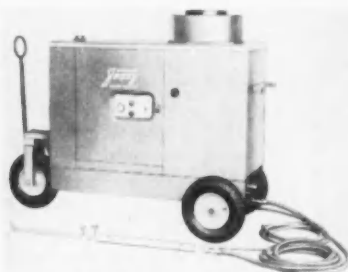
## New Products

Continued from Page 264

When the tank is re-filled, the new speedometer reading is set and the miles-per-gallon figure appears automatically at the top of the dial. A single lever movement subtracts the distance figure and divides the number of gallons. This provides a method of checking mileage at various driving speeds or with different grades of gasoline.

### P30. Steam Cleaners

Homestead Valve Manufacturing Co., Coraopolis, Pa., has introduced a line of steam cleaners with 180 gal per hour steam cleaning capacity. Designed especially for production line and extra-heavy duty cleaning, the cleaners are available in oil-fired or gas-fired units in stationary, por-



table, or trailer mounted types. One cleaner has flushing and rinsing capacities up to 480 gal per hour, according to the manufacturer. The models feature automatic electric ignitions, independent fuel systems, slow speed positive displacement pumps with stainless steel disc check valves, and airbells and alleviator hoses for smooth operation.

### P31. Two-Way Radio

Bendix Radio Corp., Baltimore, Md., announces that their new accessory trade-named "Quiet-Line" now is in production and is available for immediate delivery. It repels unwanted, communication-blocking signals from distant and local stations as well as interfering signals resulting from natural phenomena. It is a compact unit designed to be plugged into the control receptacle of any of the Bendix Dyna-Com line of vehicular communication or base station units without modification. The switching feature of the "Quiet-Line" accessory (TURN TO PAGE 272, PLEASE)

for **SUPERIOR LUBRICATION** use

**Industrial Lubricants**  
Recognized Nationally  
for their  
Superior Quality

**LE #1020 HIGH TEMPERATURE LUBRICANT** is built "tough" to give your equipment the full protection it needs. Critical conditions of high temperatures, speed, load, vibration and long continuous operation challenge the basic qualities of any lubricant. LE #1020 is engineered to cope with all of these—it provides superior lubrication under the most adverse conditions—will not melt or sling off under high temperature—resists heavy load "pounding" and vibration—maintains a tough durable film at all times.

**LE #509 (SAE 90) and #510 (SAE 140) UNIVERSAL GEAR LUBRICANTS** are manufactured from the same high quality paraffin base blending stocks as the finest aviation grade engine oils. Their rich, full-bodied film resists rupturing under severe shock loads—gear cases run cooler—consumption is held to an absolute minimum—and acid corrosion of expensive gears and bearings is virtually eliminated.

### IT PAYS TO USE THE BEST!

For additional information on LE lubricants, write, wire or call—

**INDUSTRIAL LUBRICANTS  
FOR INDUSTRIAL EQUIPMENT  
LUBRICATION  
ENGINEERS, INC.**  
FORT WORTH, TEXAS





## Profit-minded fleet operators choose White Trucks equipped with long-lived BLOOD BROTHERS Propeller Shafts



Whatever the job, construction work or highway hauling—profit's the motive. And on White trucks, dependable components like Blood Brothers Propeller Shafts give fleet owners extra profit protection.

At highway speeds, precision balanced Blood Brothers Propeller Shafts deliver maximum torque smoothly—with minimum vibration. On off-the-road jobs, they stand up under the sudden shocks and strains of the most demanding service.

That's why for today's high horsepower engines, White and others depend upon Blood Brothers Propeller Shafts.

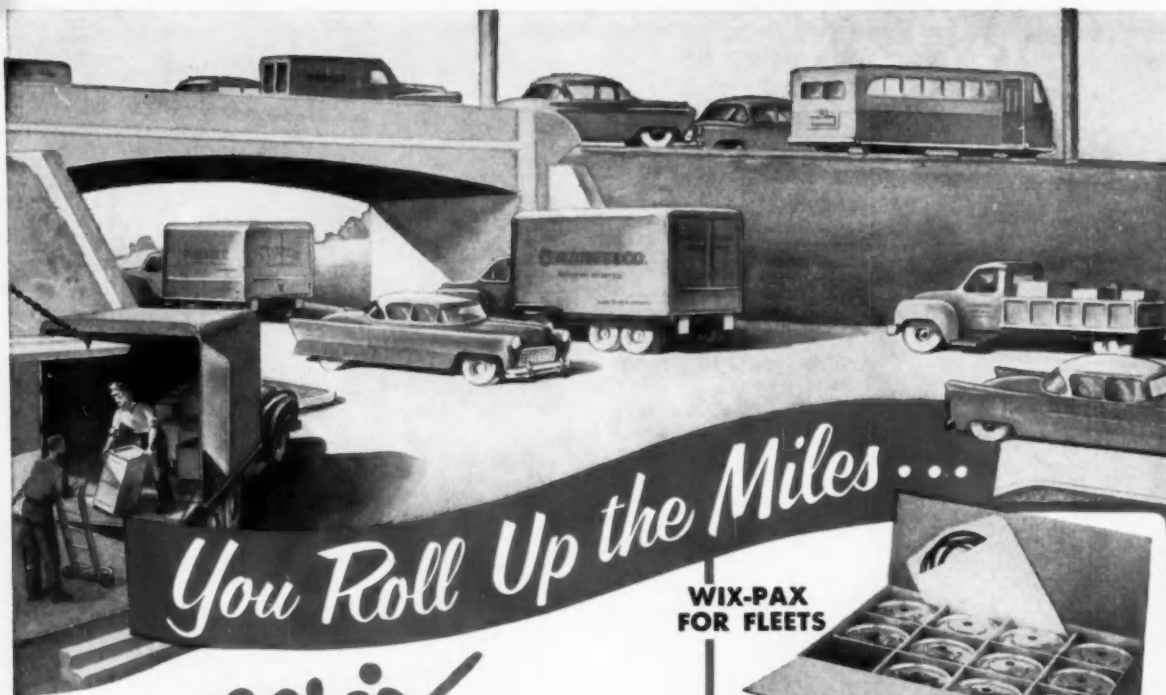
If you have a propeller shaft problem, look to Blood Brothers. Our engineering department will be happy to make suggestions.



### **BLOOD BROTHERS MACHINE DIVISION**

ROCKWELL SPRING AND AXLE COMPANY  
ALLEGAN, MICHIGAN

UNIVERSAL JOINTS  
AND DRIVE LINE  
ASSEMBLIES



You Roll Up the Miles...

wix

## HAULS MAINTENANCE COSTS DOWN!

If MOTOR OIL is a "dirty word" around your shop, your maintenance costs must be too high! Motor oil loaded with the dirt, grit, and gummy sludge picked up in fleet vehicle operation is rough on cylinders, valves, and bearings. These repairs take *time and money* and your vehicles can't *make money* when they're laid-up! There's only one way to beat it, and save money too... PREVENTIVE maintenance with WIX Engineered Filtration!

WIX offers you a *complete* line of first-quality, HEVI-DUTY Oil Filter Cartridges for every filter equipped fleet engine... gasoline or Diesel, full-flow or partial-flow systems on every truck, bus, passenger car or stationary engine. A WIX Specialist will survey your filtration requirements FREE, and set up a time and money saving Inventory Control System, custom-fitted to YOUR fleet. Ask for your FREE Filter Survey and all details about low-cost WIX-PAX Service. Call your local WIX wholesaler, or write direct, TODAY!

wix®

## OIL FILTERS CARTRIDGES

AUTOMOTIVE • INDUSTRIAL • RAILROAD

WIX CORPORATION • GASTONIA, N.C.

In Canada: Wix Accessories Corp. Ltd., Toronto

### WIX-PAX FOR FLEETS



Genuine, top-grade WIX HEVI-DUTY Cartridges, shipped prepaid, direct from factory or nearest WIX Warehouse to you, with billing through your local wholesaler. Get money-saving WIX-PAX prices in shipments of 100 lbs. or more, in full cartons.

### MODERNIZE YOUR FORD VEHICLES!

This great, new WIX "SPIN-ON" Oil Filter is original equipment on Ford family cars for '57!



AND! — There's a WIX CONVERSION for pre-'57 Ford Cars and Trucks now equipped with old-style full-flow filters. A simple Adapter converts these Vehicles to use this sensational WIX "SPIN-ON" OIL FILTER!



#### OIL FILTER SURVEY



WIX surveys your filter needs FREE. Sets up an Inventory-Control System to solve your Cartridge supply problem — automatically!

#### FLEET MANUAL



Shows the whole story on every payload unit at a glance—performance, maintenance, repairs. FREE with your first WIX-PAX order.

If you want an Impact Wrench  
designed and built the way it should be  
in the first place and a factory that you  
know goes a little bit further than most  
in standing behind its tools...

**BUY A...**



**IMPACT**  
**WRENCH**



**ALBERTSON  
& CO., INC.**

SIOUX CITY, IOWA, U.S.A.

- ELECTRIC DRILLS
- SCREW DRIVERS
- SANDERS
- GRINDERS
- IMPACT WRENCHES
- POLISHERS
- PORTABLE SAWS
- FLEXIBLE SHAFTS
- ABRASIVE DISCS
- VALVE FACE GRINDING MACHINES

## THERE'S NO SUBSTITUTE for LUBER-FINER'S



**ENGINEERED  
PROTECTION**

**YES! IT'S WHAT'S  
INSIDE  
THAT COUNTS**

The Efficiency of  
Luber-finer's Exclusive  
Patented Process

**HAS NEVER  
BEEN EQUALLED!**

**USE ONLY GENUINE**

**Luber-finer**

**DIESELPAKS**



Only a Luber-finer Unit  
Plus a Genuine Luber-  
finer Pack can give the  
Exclusive Patented Fil-  
tering Process that has  
made Luber-finer The  
Standard of The Indus-  
try Since 1936!!



**THERE'S A LUBER-FINER MODEL  
FOR EVERY TYPE OF ENGINE—  
EVERY TYPE OF OIL!!**

**LUBER-FINER PACKS  
AVAILABLE**

### 1. REFINING PACK

Introduced to the public in 1935 for use with straight mineral oils, fuel oils, hydraulic oils, and inhibited industrial oils.

### 2. DIESELPAK

First made available in 1941, the DIESELPAK was primarily designed for use with H.D. detergent compounded oils and has also achieved outstanding results when used with fuel oils and straight mineral oils.

## DON'T BE MISLED BY PRICE ALONE!

There is no substitute for DIESELPAK'S Patented Filtering Process for H.D. Compounded oils AT ANY PRICE!

The DIESELPAK cleans more oil faster—keeps it CLEAN longer—and gives more service and better engineered protection than ANY of the substitute filtering elements being offered for Luber-finer units.

**IT PAYS TO GET THE BEST!**

**STANDARD OF THE INDUSTRY  
SINCE 1936**

Luber-finer Units are Standard and Optional Equipment on America's Leading Diesel Trucks, Tractors, Stationary Engines.

Write for Complete Information to Dept. 15

**LUBER-FINER, INC.**

2514 S. Grand Ave., Los Angeles 7

## New Products

Continued from Page 268

allows the communication system to be operated on either tone-coded or conventional squelch. With this new tone-coded accessory, so-called "skip interference" radio signals are rejected by the receiver.

### P32. Turn Signals

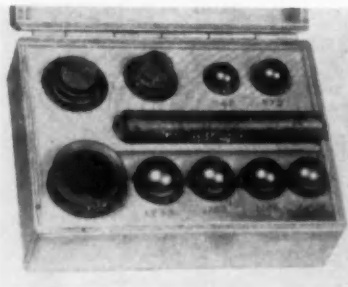
The K-D Lamp Co., Cincinnati, Ohio, is now marketing a line of turn signals with lens designed according to the manufacturer, to produce maximum candle power with correct SAE pattern. The line features 4 7/16-in. lucite acrylic lens, bellows type rubber grommet encasing for lead wires, and reinforcing plates for the heavy gage body, and is gasketed for weather tight service.

### P33. Signal Lamps

Signal-Stat Corp., New York City, is marketing signal lamps 4 1/4 in. diameter with extra thick acrylic plastic molding which, according to the manufacturer, produce peak beams of intensified light for effective signals. The lamps also feature brass sockets designed to minimize voltage drop and eliminate socket corrosion, ceramic disc pigtailed with stainless steel springs, and heavy gage thermo-plastic wiring and rimless construction to permit the signal to be seen from any angle. The lamps are available in 6, 12 and 24-volt models.

### P34. Axle Kit

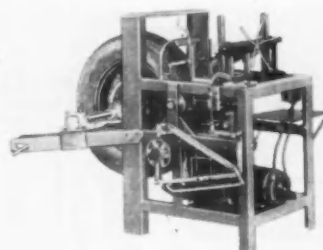
Jergens Tool Specialty Co., Cleveland, Ohio, has announced a new kit for sizing and burnishing rear axle



compensating pinion gear bushings. Designed especially for use on Timken axles, the kit includes handle, adapters, and burnishing balls. It can also be used to burnish other split bushings which are within its size range.

### P35. Tire Regroover

Ballack & Co., St. Louis, Mo., has introduced a tire regrooving machine which can cut new grooves which



duplicate the original patterns of the tires. A specially designed mechanism controlling the groove blade enables cutting new grooves while re-tracing the original treads. All adjustments for regrooving can be made while the machine is operating.

### P36. Snap Seal Lamps

The Betts Machine Co., Warren, Pa., is now marketing snap seal lamps for stop, tail and license requirements. Equipped for 180° lighting, the lamps also feature a one-piece shatter resistant lens and a pressure tight "O" ring lens-to-body seal which keeps out water, dirt and vapors. According to the manufacturer, this light meets all ICC and state requirements.

### P37. Emergency Lamp

The Do-Ray Co., Chicago, announces development of a new emergency lamp, designed with a special high intensity 7-in. shatter-proof lucite plastic one-piece lens which, according to the manufacturer, produces a brilliant spread beam visible in excess of 800 ft even in bright sunlight without the use of a reflector. The lamp is 2 1/2 in. deep, 7 in. wide and 8 1/2 in. high. Lenses are mounted on a heavy stamped base with a die cast frame.

### P38. Hydraulic Derrick

The Bayless Kerr Co., Cleveland, Ohio, is now marketing a hydraulic derrick with an extendible boom head. The boom head is a double acting cylinder which extends the derrick head an extra five ft. With the boom extended, the derrick handles poles up to 75 ft long. Derrick lifting capacity at 10° beyond the vertical is 8000 lb, with the boom head extended it is 6000 lb. A 4-cylinder arrangement for moving the side legs makes possible high lifting capacity.



# MILESTONES IN POWER PROGRESS

(NO. 4 IN A SERIES)



1912 — First electric starter

## 1952 — First thin-wall plastic case was introduced by GLOBE

The first electric starter made good batteries absolutely essential to trouble-free motoring. And Globe-Union — already pioneering in the field — has kept right on working through the years to make those good batteries even better. A typical Globe improvement "first" is the thin-wall plastic battery case—perfected in 1952 after 10 years of research to provide—

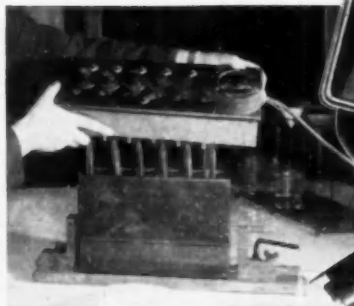
21% more acid capacity

96% increase in resistance to impact

40% greater resistance to acid penetration



Impact test



Bulge test

The battery that's built to take brute punishment and give peak performance for tens of thousands of hard-driving miles. Proof of strength is thin-wall container's score on the "Impact test and Bulge test" as illustrated above. Proof of container's extra acid capacity is shown in side-by-side comparison of thin-wall plastic design with composition material design . . . use of new plastics also means less acid absorption without contamination of acid.

Another milestone in power — another first for Globe!

### FASTER, LOW-COST DELIVERY!

Globe's sixteen plants are strategically located for fastest, lowest-cost shipments to all markets; fourteen (\*) are producing creatively packaged dry-charged batteries.

\*ATLANTA, GA., \*DALLAS, TEXAS, \*EMPORIA, KANSAS, \*HOUSTON, TEXAS, \*LOUISVILLE, KY., \*MEDFORD, MASS., \*MEMPHIS, TENN., \*MILWAUKEE, WIS., \*MINERAL RIDGE, OHIO, \*PHILADELPHIA, PA., \*REIDSVILLE, NO. CAROLINA, \*SAN JOSE, CALIF., \*HASTINGS-ON-HUDSON, N. Y., \*LOS ANGELES, CALIF., OREGON CITY, ORE., AJAX (ONTARIO) CANADA



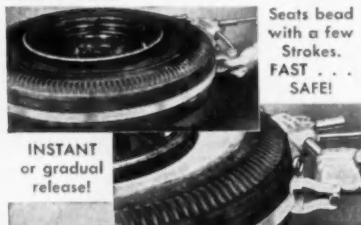
# GLOBE-UNION INC.

MILWAUKEE 1, WISCONSIN

If it's Petroleum-powered there's a **GLOBE-BUILT BATTERY** right from the start!



Services both auto and truck tires! Every tire repair man needs this powerful, positive, fast-acting tool. Safer, easier to use. Built extra strong for longer life. You can't buy better . . . you can't afford less! For your protection, insist on Ken T-130.



Seats bead with a few strokes. FAST . . . SAFE!

INSTANT or gradual release!



Powerful enough for Tubeless Truck Tires!

#### WHY BUY TWO?

Ken-Speed Bead Expander is the only tool with the extra power to service both auto and truck tubeless tires.

IF IT'S A KEN, IT'S BETTER  
See your automotive jobber

**The KEN-TOOL Mfg. Co.**  
AKRON 5, OHIO

**MOTOR TRUCKS  
CRANE CARRIERS  
CUSTOM BUILT CHASSIS  
GENERATOR SETS**

**WARNER & SWASEY CO.**

**DUPLIX**

**DIVISION  
LANSING, MICHIGAN**

*The best parts come from*

**Wohlert Corporation**  
LANSING & MICHIGAN

THEY'RE MADE IN WOHLERT FACTORIES BY PRECISION TRAINED WORKMEN

THERE ARE HUNDREDS OF SUCCESSFUL PARTS IN THE WOHLERT LINE

EVERY WOHLERT PART IS ENGINEERED AND PLAINLY IDENTIFIED



#### AMONG THE STATES

**Arkansas**—School buses have to be registered (H494). Common and contract carriers have \$5 annual fee (H326). Turn signals shall be signal lamps (H229).

**Idaho**—Certain trucks and buses under 24,001 lb GVW are to be registered with assessor of county where owner resides (H169). Simultaneously flashing lights are permitted as traffic hazard warning, and identification lamps are authorized for commercial vehicles over 80 in. wide (H181). It is illegal to require or permit illegal operation of vehicle by another person (H57).

**Indiana**—Requires \$10/20/5000 financial responsibility (H237). Owner of 25 vehicles may be self insurer (S100). Turnpike speed limit for trucks is 55 mph, for buses 60 mph (S262). Gasoline tax is 6¢ per gal effective Mar. 15, 1957 (H65). Tax on fuel other than gasoline is 6¢ per gal (H79). Armored car service is exempt from Public Service Commission regulation (H61). Seed transport is regulated (M15). Authorities may not require new equipment on school buses during period of contract or for four years (H24).

Also in Indiana, driver license fee is now \$3.50 and chauffeur fee is \$2.50 (S85). Speed limit is 25 mph in business district and 35 mph in residential district (H60). Second, third and fourth class cities may purchase buses for lease to authorized carrier (S241). Toll road speed limit is 60 mph for buses, 55 mph for trucks (S262).

**Iowa**—Tractor-trailer combination maximum length is 50 ft (H132). Present 6¢ gasoline tax rate is extended to 1961 (S229). Financial responsibility of certain drivers and owners is raised to \$10/20/5000 (H116). Trucks and tractors with three or more axles may have one front axle not equipped with brakes. Vehicles in driveaway-towaway operation need only have such brakes operative as are necessary to meet stopping distance requirements (H552).

Iowa also has increased operator license fee to \$2.50, chauffeur fee to

\$4 (S31). Local bus companies are relieved from certain tax loads (H372). State fire marshal is to provide regulations for transport of inflammable liquids and LP gas (H563). Highway Commission employees are authorized to stop vehicles for inspection and to enforce vehicle registration requirements (H205). Motor carriers of liquids in bulk come under Iowa Commerce Commission regulation (S167).

**Kansas**—School buses must have seats facing forward, are subject to State Highway Commission regulation (H176). New vehicles sold in state after Dec. 1, 1959, must have turn signal lamps (H348). Flammable liquid and explosive carriers must stop at rail crossings (H71). Maximum SCC assessment for regulatory expenses is increased as well as SCC regulatory powers (S426). SCC has

(TURN TO PAGE 276, PLEASE)

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UNITED STATES STEEL



## Among the States

Continued from Page 274

to consent to lease or transfer of operating rights (S316). Self-propelled construction equipment is exempt from registration fees if not operated on weekends or holidays (S86). Further regulation is imposed on excess size and weight permits (H227). Registration law amendments include repeal of pro-rata registration, increase in some fees, changes in some fee classifications (H363).

**Kentucky** — Established April 1, 1957, a port of entry system for trucks over 18,000 lb.

**Maine** — Ten-day notice is required in cancellation of property carrier

operating authority (H802). Carrier regulatory law exemptions are amended (S215). For-hire passenger carrier regulations are prescribed (H867).

Maine also permits use of wire rope and steel cables for binding logs (H762).

**Maryland** — Montgomery County Council is authorized to regulate traffic on county roads and to designate truck routes (H63). Passing on right on dual highways or one-way streets is authorized (H27). Increased registration fees scheduled for 1958 are repealed. (S64).

Maryland also has established an Unsatisfied Judgment Fund, levies a \$1 per vehicle fee on insured vehicles to sustain it (S116). Trucks with over two axles, tractors and buses are required to report quarterly amount of fuel used in Maryland and pay 6¢ per gal tax on such fuel (H483).

**Massachusetts** — Requirement that buses over 35 ft long have three axles is repealed (H2801).

**Minnesota** — Pro-rata registration of interstate bus fleets is authorized, and an additional \$5 identification plate fee is imposed on buses so registered (S63). Special winter weight limits for log haulers are continued until Mar. 7, 1959 (H319). 30-mill tax is authorized in certain counties for road purposes (S589).

Minnesota also permits auto transports a 36-in. tolerance under certain conditions (H889). County board may set weight limits on road within its jurisdiction (H798). Rates charged by city buses are to be based on ratio of operating income to operating expenses (S736). Registration fees for intercity trucks and tractors over 27,000 lb GVW are increased 20 per cent,

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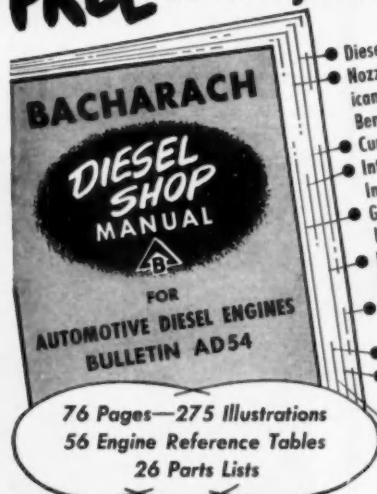
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## Among the States

Continued from Page 276

combination length limit is increased to 50 ft, new table of weight limits based on axle spacing ranges from 32,000 to 72,500 lb GCW (H2002, S1917). Registration fee for buses operated by common carrier wholly within city limits is set at \$25 (S704).

**Montana**—Two auxiliary passing lamps and two auxiliary driving lamps are permitted (H174). 7¢ per gal gasoline tax rate is extended until Jan. 15, 1958 (H388). Gasoline tax is reduced to 6¢ per gal on and after Jan. 16, 1958 (H389). New requirements for pro-rate fleet registration are enacted and old ones repealed (H391, H392). Incorporated cities may operate bus lines (S182). Mechanical arm signals on vehicles are prohibited (H188). Vehicles required formerly to have flares and fuses at night now must carry them at all times (H190). Weights must be marked on vehicles and combinations (H196).

Montana also has increased truck speed limit to 50 mph (H193). Vehicles required to carry flares must have them at all times when operated on highways, except for trucks under one ton (H190).

**Nebraska**—Owner of leased truck or trailer is jointly and severally liable with operator and lessee to extent of \$25/50/10,000 only (LB126). Proof of payment of personal property taxes is prerequisite to vehicle registration (LB279). Regulation of motor fuel carriers is affected by new law (LB303).

**Nevada**—It is unlawful to operate vehicle without chains or snow tires when highway signs so advise (H430). Off-highway trailers are exempt from registration fees but must be registered (H428).

**New Hampshire**—Vehicles transporting pulpwood may have 102-in. width if load is bound and staked in specified way (S18).

**New Mexico**—Vehicles purchased and licensed initially in state by original owner are exempt from excise tax on titles (H107). New schedule of registration fees at present rates is provided (S47). Motor fuel taxes apply to persons using fuel in

federal areas (S99). Special motor fuels tax is set at 6¢ (S185).

**New York**—Official weight slip when issued by licensed weightmaster shall be evidence of information set forth in weight slip (H937). Commercial vehicle lights must be approved, and state is authorized to regulate vehicle lighting (H1169). Minimum period for retaining weight-distance tax records is reduced to 4 years (H939). Weight-distance tax returns on a quarterly basis are approved (H936). An optional method of figuring weight-distance has been provided (S762).

New York also exempts buses operated by city or city agency from Public Service Commission regulation (S314). Buses operated in certificate of public convenience and necessity are permitted a length of 40 ft (H1218).

**North Carolina**—Combination length is increased to 50 ft (S311).

**Texas**—Oil field service trucks are allowed 58,000 lb maximum weight (S268).

**Vermont**—Registration fee for local transit buses is set at \$30 (H240).

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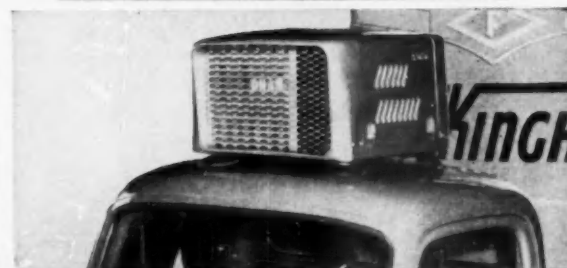
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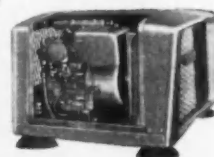


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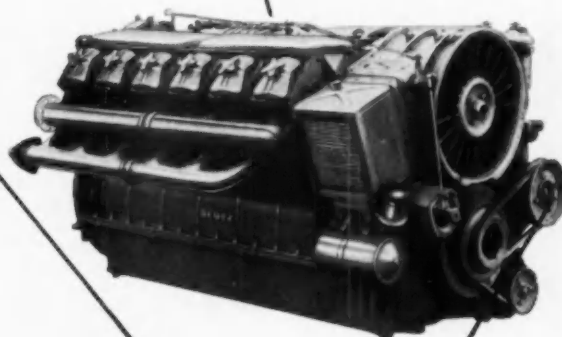
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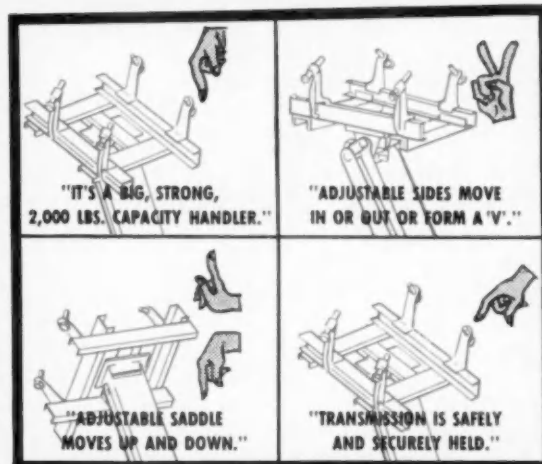
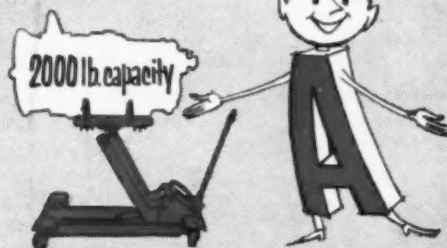


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COMMERCIAL CAR JOURNAL, June, 1957

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